



REPORT

OF

THE CONDITION AND PROGRESS

OF THE

QUEEN'S UNIVERSITY IN IRELAND,

FROM

1st SEPTEMBER, 1855, TO 1st SEPTEMBER, 1856.

BY

THE RIGHT HON. MAZIERE BRADY,

VICE-CHANCELLOR OF THE UNIVERSITY, AND LORD HIGH CHANCELLOR OF IRELAND.

Presented to both Houses of Parliament by Command of Her Majesty.

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1856.

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REPORT.

TO HIS EXCELLENCY THE EARL OF CARLISLE, K.G., LORD LIEUTENANT
GENERAL AND GENERAL GOVERNOR OF IRELAND.

13th September, 1856.

MAY IT PLEASE YOUR EXCELLENCY,

In the absence of the Earl of Clarendon, K.G., G.C.B., Chancellor of the Queen's University in Ireland, it becomes my duty, as Vice-Chancellor, in compliance with the Provisions of Her Majesty's Charter, to furnish to your Excellency the Report of its condition and progress since 1st September, 1855.

In accordance with the Ordinance of the 7th March, 1855, as printed in the Appendix to last year's Report, No. VI., the Examinations of that year for Degrees and Diplomas were holden between the 18th of September and 3rd of October, 1855; they were principally conducted by printed papers, copies of Appendix II. which are hereunto annexed.

At the close of the Examination, the several Candidates named in the accompanying lists were duly passed by the Examiners, for the Degrees, Diplomas, and Honors, attached to their respective names, all of which were accordingly conferred at a Public Meeting of the University, in St. Patrick's Hall, on the 11th October last. Your Excellency was graciously pleased to honour it with your presence, and an account of the proceedings on the occasion will be found appended to this Report, No. I. Only three among the entire list of Candidates who presented themselves for Degrees, were found to be insufficiently qualified, and were consequently rejected, a circumstance indicating superior preparation in the general body of the Candidates as compared with the result of similar Examinations in former years.

The Ordinance regulating the Examinations for the current year is appended to this Report.

The following papers, connected with the proceedings of this University, are also annexed, for your Excellency's information.

- Appendix V. A return of Medical Schools which have reported to the Senate.
- Appendix VI. Estimate for current year.
- Appendix VII. Cash account for year ended 20th June, 1856.
- Appendix VIII. List of Examiners elected 14th July, 1856.
- Appendix IX. Return of the several meetings of the Senate since last Report.

I have the honour to be

Your Excellency's

Obedient and faithful Servant,

MAZIERE BRADY, C,

Vice-Chancellor.

APPENDIX.

APPENDIX I.

PUBLIC MEETING of the QUEEN'S UNIVERSITY in IRELAND, held in St. Patrick's Hall, Dublin Castle, on the 11th October, 1855.

A very large number of distinguished persons having taken their places in the Hall, the University entered it in procession, at three o'clock, in the following order:—

- Candidates for Certificates of having passed first Medical Examination.
- Candidates for Diplomas in Agriculture, Engineering, and Elementary Law.
- Candidates for the Degrees of A.B., A.M., LL.B., and M.D.
- The Examiners and Professors of the University.
- The Secretary to the University.
- The Senate.
- The Vice-Chancellor.

Having taken their seats, the Vice-Chancellor rose, and, attended by the Secretary, proceeded to the entrance of the Hall, and thence conducted his Excellency the Lord Lieutenant to the chair set apart for him to the right of the Vice-Chancellor, who then addressed the assembly in the following terms:—

We are again assembled for the discharge of our annual duty—that of conferring on the students of the Queen's Colleges in Ireland the degrees to which those who have passed the examinations recently held in this hall have been considered entitled; and to distribute among the most successful competitors in their ranks the honors which the reports of our examiners have enabled us to award. In the total number of students who have passed the examination for our various classes of degrees, diplomas, and certificates, the result is nearly equal to that of those who were presented to us on the last occasion of a similar meeting in 1854; but I confess to my feeling some disappointment on finding that the number of candidates for our first degree in Arts from those three collegiate institutions, has fallen not only below my expectations, which anticipated an increase upon the former number in the present class, but has been, in fact, less than in the preceding year. In that year thirty candidates of those examined for that degree were passed by the examiners. We have now had presented for examination only nineteen, all of whom, however, I am happy to say, have been deemed by the examiners sufficiently qualified to obtain it. This apparent diminution in the number of candidates for the degree of Bachelor of Arts is subject to some correction, in the fact that, in addition to the students who have actually appeared for the examination, twelve others sent forward their names as intending to seek the degree, who have not finally presented themselves before the examiners. I hope these young gentlemen have not, after having successfully passed through their collegiate course, altogether abandoned the intention of graduating in the University. I cannot imagine any motive they could be actuated by in so foregoing the opportunity of attaining that degree, for which, in truth, their studies in college are more especially the preparation, and which gives the appropriate stamp and value in the currency of learning, and for their particular pursuits in the world, to the stores of literature and science in the accumulation of which they have been so long engaged. I assume rather that possibly they may not yet have felt their studies sufficiently matured; that they purpose to devote another year to the completion of them, and prefer to undergo this additional labour, and to incur the delay of so much time rather than encounter on this occasion the risk and discredit of being unsuccessful in the examination. I hope, therefore, that their absence from this year's competition is but temporary, and that on the next occasion of our meeting for the like purpose they will be found high in the list of successful graduates of the Queen's University. As respects those who have now come forward to seek our degrees, I am happy in being enabled to testify to the generally satisfactory character of the answering in their respective classes, as reported by the examiners; while in several instances, among the class of competitors for honors, they have described it as of the highest order, and special recommendations have been made to us of individuals who, though unsuccessful in this competition, yet approached so near to the extreme point of success that the examiners were desirous the Senate should confer extra medals or prizes on those so recommended. On full consideration, however, the Senate has been of opinion that the list of honors proposed by its ordinance in the respective classes was fairly proportionate to the number of students engaged in the competition, and that any increase which would exceed that just proportion might have the effect of detracting from the value of these honorary distinctions, by exposing them to the charge of being too general and indiscriminate. The Senate, therefore—but, I may say, not without some feeling of reluctance—judged it best and most conducive to the preservation of the high character it seeks to establish and maintain for its degrees and honorary distinctions, to adhere to the list of honors as already fixed by the ordinance; but they

have authorized the secretary, in any case where a special recommendation of this nature has been made by the examiners, to give to the student in whose favour it has been presented, an official certificate to that effect, so that he may not be without some abiding testimonial of the merit so acknowledged and so commended. In addition to the ordinary class of candidates for our degrees from the Queen's Colleges, we purpose on this occasion, under the special power of our charter, to admit to the degree of Doctor of Medicine two gentlemen who have already attained that degree in another University.

On the former occasions of our annual meetings in this Hall I thought it appropriate to the business of the day to make some observations on the degrees and honors conferred by this University, the course of instruction through which the students seeking those degrees were required to pass, and the special purposes designed in the institution of the Queen's Colleges, of which this University is the head, and of the University itself. I endeavoured to convey some general views of the extensive field of literature—of classical and scientific knowledge—through which the students of those colleges had successfully pursued their way, and to impress upon the public mind the intrinsic value of the degrees to which, by this pursuit, they had finally attained. For the colleges, it was my object to show that in their schools of learning, in the excellence of their professors, and in the material appliances of scientific teaching, they were adequate to the purpose they had been destined to fulfil—the sound and practical education of the youth of Ireland; and that, while the preservation of the great fundamental principle, that this education should be one common to united classes of all religious creeds and denominations was the governing and paramount rule to which every branch of the system must conform, yet that within the institutions themselves, and as part of their organisation, provision was carefully made for the supervision of the moral conduct and religious education of the students, so far as practically could be devised for such institutions in the provinces of Ireland. And for the University itself, I endeavoured to vindicate its title to that designation, on the very fact of its headship of the colleges so based on a system of general and united education. Retaining these views, and anxiously desiring their general recognition, I have but, on the present occasion, to refer thus briefly to them, feeling that I cannot add any thing in support of them to the observations I have already thought it my duty to make. I am very conscious that in these observations I am far, indeed, from having exhausted these wide and interesting subjects; but I am equally conscious that I have exhausted my own powers of advocacy in support of them. There are, however, a few topics in connexion with our collegiate and university courses of education to which, on the present occasion, I think I may be justified in alluding, and I do so with the more satisfaction, and the greater assurance that I will not be thought unnecessarily to trespass on the attention of this meeting, because I find in them striking evidences of the soundness of the general principles on which the courses of learning, both general and professional, have been established, as well in the colleges as for our university degrees, and points of excellence in those arrangements which are not unworthy of public attention. In the first place I will notice that which more immediately belongs to my own profession—the study of law and jurisprudence. I know that in the older universities of England and Ireland professorships have been founded in those sciences, and lectures given by able and learned men, well deserving the diligent attention of the student and the approbation of the public; but I do not, I think, depreciate those institutions, when I observe that these subjects have not hitherto substantially formed part of their normal courses of learning, or been sustained by any special encouragement in the way of collegiate position or university honors. In the establishment of the Queen's Colleges, these important branches of learning—important in some degree to every man entering on a public career, indispensable to the professional student—occupy a higher place. The foundations of the colleges comprise professorships in general jurisprudence and in English law. The study of the former of these sciences constitutes a part of the general courses to be pursued by every student in the faculty of Arts; while in the faculty of Law, comprising both professorships, there have been established by the charter of each college three scholarships, to be competed for in every year by students of the three respective annual classes. In the ordinances of the University, likewise, a prominent place has been assigned to these branches of learning. We have established a diploma of elementary law, to be awarded, on sufficient answering before our examiners, to students of the colleges who shall have pursued there, for three years, courses of study which comprise general jurisprudence, the civil law, and the law of England in its various branches of legal and equitable jurisdiction; and one of our honorary premiums is assigned to the best answerer of the candidates for this diploma on a special honor examination. As regards the degrees of bachelor of laws and doctor of laws, which may be conferred by the Senate of this University, they are not here mere formal steps in the scale of learned titles to be attained by the performance of some trivial and unmeaning exercises at the end of a given term of years from the assumption of a prior degree. On the contrary, special examinations are assigned to the candidates for these distinctions, making them, as all university degrees ought properly to be, true tests of merit and knowledge in their possessors. The time within which the colleges and the university have been in existence has not as yet allowed of any candidate seeking the degree of LL.D.; and for that of bachelor of laws, from the same cause, the number has been but inconsiderable—too small, indeed, to justify the Senate in continuing to that class in its present ordinance any separate honor examinations, as they may be induced to do when the attendance of a more numerous list shall appear to justify the proposal.

It is most gratifying to the Senate, and to the authorities and professors of the respective colleges, to know that these arrangements for the study of those most useful branches of learning have not been without their appropriate fruits. On the occasions of our examinations here—and I have the authority of the learned examiner in jurisprudence for more especially alluding in this respect to that just conducted by him—the answering of the students has been most satisfactory, most creditable to themselves and to the professors whose instructions they have attended; and, I believe, had our ordinances provided for an honor examination in the class of candidates for the degree of Bachelor of Laws, the gentleman on whom that degree is to be conferred to-day would have added this honor to those with which his highly distinguished collegiate and university career has already been decorated.

A still more interesting matter for congratulation, in reference to this subject, is to be found in the distinguished success of a student of one of the colleges—that of Belfast, a graduate of this University, who has obtained the highest honor, a valuable scholarship, at a late examination of the students of law in London. The Inns of Court in England are seriously engaged in effecting improvements in the mode and system of education to be pursued by students seeking to qualify themselves for the exercise of the legal profession; the Benchers of our Inns, in conjunction with the Board of Trinity College, have made some important advances in the same direction; there is much still to be done for the improvement of the systems in both countries, but the sound and true principle is established; and the success of the graduate of our University, on the occasion I have alluded to, affords a strong evidence that his collegiate course of instruction has been one well calculated to qualify him for successful competition in examination on subjects, deemed by learned and thinking men among the most enlightened of English jurists, as these best adapted for sound legal instruction. I have great satisfaction also in referring, on this head, to some letters received by our secretary from the learned gentleman who fills the chair of the Regius Professorship of Law in the University of Cambridge, in the first of which, after alluding to our printed examination papers, and requesting copies of them, and stating that he is a member of a committee appointed for the purpose of entirely remodeling the course of lectures for the faculty of Law in that University, he says, "The questions in the Queen's Colleges for the degree of LL.B., as well as those on jurisprudence, strike me as being so admirably adapted to students of the principles of law, that I should wish to make as much use of them as I can;" and again, in reply to a letter from Dr. Bell, with which had been transmitted to him some copies of the University and College papers, containing the examination questions, Dr. Abdy says, "I sincerely trust that in many points we shall imitate the system adopted in the Queen's Colleges in our proposed new Law classes in this University, as I feel no doubt of the benefit we shall derive by so doing. I speak with more boldness on the subject of the questions in Jurisprudence and the Civil Law, as that is my own department here." "But it is not only in the Law papers that your Colleges show their merit and utility. The whole system of education pursued by you is, in my humble opinion, so good and so well suited to the present times, that I sincerely trust it may defy all opposition."

The second part of the topics to which I think it not unimportant to allude in connexion with our institutions is one also of a professional character—I allude to the degree conferred by this University of Doctor of Medicine, to which a large proportion of our students are to-day to be admitted, and I do so for the purpose of removing an impression respecting it, which, possibly, its title may lead some to entertain. In the common apprehension of the public it may be supposed that the studies appropriately required from the candidates for this degree are those only of the physician as distinguished from the restricted acceptance of that term—those merely of the physician as distinguished from those of the surgical professor—and, moreover, that all that our colleges can teach, or that the University requires, is but the theoretical learning of lecture-rooms and books. Our course and system are widely different. The professors of anatomy, physiology, and surgery, are members of the faculty of medicine in each of the colleges; in connexion with each are established arrangements for the practical illustration of these sciences, under the care of able and intelligent assistants; and the College lectures and examination for scholarships in that faculty are directed to inform the student and test his learning and application in those respective studies as well and as fully as in the more theory and practice of medicine. The same course and system prevail in the double examinations, prescribed by the ordinances of the Senate, for the candidates for its degree, while in addition to the requirements so laid down, and to his passing satisfactorily our examination in all those branches of professional learning, and other requisite subjects, we further demand of the student certificates of his attendance in recognised hospitals, on the actual practice of the several branches of medical and surgical art, for periods of very considerable duration. Thus, I may say, we have practically made the degree of Doctor of Medicine of the Queen's University one which might with almost equal propriety be called a surgical as it is nominally styled a medical degree, endeavouring to make the medical tuition of our graduates universal and complete—to endow them with the learning of the physician and the practical knowledge of the surgeon, qualifying them in so doing, as far as our institutions and requirements can do, for the exercise of every branch of their important profession.

Another, and the last topic to which on the present occasion I feel at liberty to advert, is one which has in very recent times largely occupied the public mind, and made rapid progress in public estimation. It is one involving important consequences in many branches

of civil and political life, and deeply interesting to our Colleges and Universities, from its bearing on the general diffusion of knowledge and the material interests of the youthful student. I allude to the practical introduction of the principle of competitive examination in the selection of large classes of official public servants. After some differences of opinion as to the propriety of its adoption, and some struggle, but a brief one, this principle may now be recognised as fairly established. There have been, and there will perhaps always be, contentions as to the limits of its application; with some it will be thought to be every thing, with others of little or scarce any avail; but, looking to the results already attained, and to the plain, intelligible, common sense doctrines on which it rests, I cannot believe that in this matter our steps ever will be retrograde, and I hail the establishment of this principle as a fact accomplished in the institutions of the empire, bearing with it vast and cheering prospects for the advocates of learning—for all engaged in the direction of public education—and more than this, for all engaged under that direction in the acquisition of knowledge. The authorities on whom devolves the selection of the public administrators and official functionaries of the vast regions of Eastern India have sanctioned the adoption of this principle in an important class of their civil appointments. The home government of England, by a recent order in council, has in like manner nominated a commission of examiners for testing the qualifications of candidates for junior situations in all her Majesty's civil establishments. I hold in my hand a copy of a return made to the House of Commons in July last, showing the number of the public departments, the qualification of whose servants are to be thus determined, in England and Wales, in Scotland, and in Ireland—in all eighty-four—embracing, I believe, every civil government department in the three kingdoms of the empire. And this commission has been already in active operation, as the return demonstrates. The amount of situations thus about to be brought to the test of future competitive examination I am unable to state. I might, perhaps, not use an extravagant term if I described it as enormous. Upon a subject which has excited latterly so great a share of public attention and discussion, especially in the periodical press, it would be unpardonable in me on this occasion to enter more at large; but I may, with some satisfaction on behalf of our Colleges and University allude to the fact, that among the successful candidates for the appointments competed for in the examination held under the direction of the Board of Commissioners for the affairs of India, are two of the students of these colleges, one of whom, Mr. Raymond West, is to be admitted on the present occasion to our degree of Bachelor in Arts. I rejoice in this success as well on account of the individual students who have thus shown their pre-eminence, as from the testimony it bears to the useful character of the course of study in which they were trained in their respective colleges, and its adaptation to the standard of literary and scientific acquirements, which the eminent and highly-gifted individuals consulted on the proper course of such an examination, deemed the best suited to the exigencies of a public service demanding no ordinary qualifications, and exposed at times to no ordinary trials. But apart from, and above this local consideration, I regard the recognition of this principle of competitive examination, in public departments, as a great incentive to the student of every college and seminary of learning; it tends in a high degree to aid him in that struggle, which every man must engage in who desires to be the honourable artificer of his own position and fortunes, to place early advancement within the reach of the labours of his own head; and to relieve him from the indolent, yet wearying, seeking after patronage in which so many have wasted their youthful energies and their whole life's best time; and we may, perhaps with some confidence, indulge the hope that, under this more pure and enlightened system, the complaint of the poet of the evils attendant on this seeking after patronage will no longer touch us but as the querulous lamentation of a long-vanished age. I make no apology for recalling it to your recollections from the expressive pages of Spenser:—

"Full little knowest thou, that hast not tried
What hell it is to sing long to beds;
To lose good days, that might be better spent;
To waste long nights in pensive discontent;
To speed to-day, to be put back to-morrow;
To feed on hope, to pine with fear and sorrow;
To have thy Prince's grace, yet want his Favour;
To have thy asking, yet wait many years,
To fret thy soul with crosses and with cares;
To eat thy heart through comfortless despairs;
To fawn, to crouch, to wait, to slide, to run,
To spend, to give, to want, to be undone."

In the absence of our Chancellor, the Earl of Clarendon, whose public duties in another part of the empire will, I apprehend, long prevent his discharging this office in person—as, I am confident, he would desire to do—I proceed to confer on the successful candidates, now present, the degrees and honors awarded to them by the Senate of the Queen's University.

Candidates for degrees were then called. They were introduced in succession by the respective Presidents of their Colleges, when, having signed the roll and the Secretary having certified for them, his Lordship conferred the degrees which had been awarded by the Senate.

The business of the meeting having been brought to a close, the Vice-Chancellor addressed his Excellency the Lord Lieutenant as follows:—

May it please your Excellency—Having reached the close of our university proceedings, there remains to me the grateful office of returning to you the thanks of the Senate for the privilege you have been graciously pleased to accord to them of holding their public

meeting in this Hall, and for the honour you have done us in gracing our assembly with your presence. I would hope, my Lord, that the proceedings of to-day have not been without interest to you, although I regret it has not been permitted to us to present before you a larger body of our collegiate students. Our institution, however, is but yet in its infancy—the colleges have received their foundation since the period of your Excellency's former official connexion with this country—they have had to sustain much, but I would still hope, a gradually decreasing opposition—their progress has been necessarily affected by the times of public calamity with which our land has so awfully been visited—they have difficulties to contend with, some in the social condition of the people, some in the pecuniary expenditure which the continuous course of study established in them requires from the students; but, perhaps, the greatest is the want of a good local supply of preparatory schools, where the young could be sufficiently educated to enter at once, and with adequate preliminary instruction, upon the more advanced courses of collegiate study. Our University itself has been of still more recent establishment, and the present is only the fourth year in which we have met to confer degrees. Our progress, however, has not been inconsiderable, nor is it discouraging. Besides the large number of students who have attended the colleges for purposes not requiring the assumption of a formal degree or diploma, we have already recorded on our university books, including the class just presented before your Excellency, the names of thirty-five doctors of medicine, twenty-two masters of arts, ninety-six bachelors of arts, and three bachelors of law; nine who have obtained our diploma of agriculture, ten who have obtained that of elementary law, one that of engineering, and six students have passed their first examination in medicine, who, I trust, in due time, will present themselves as candidates for our degree of doctor in that faculty. We have further the satisfaction of knowing that our courses of study and degrees have deservedly attracted the estimation of learned men in other lands, who have witnessed the success of students of our colleges in competition with members of every other seminary in the United Kingdom. The Legislature has sanctioned additional aids to the pecuniary resources of the colleges, and we have been honoured from the commencement of our labours by the gracious support and fostering encouragement of your Excellency's predecessors in the exalted office which her Majesty has intrusted to your charge. I venture to assure myself and this institution that we build on no insecure foundation, when we calculate that from your Excellency we shall receive a no less favourable acceptance—a no less kind and encouraging support. We have already abundant evidence to satisfy us of the justice of these expectations in the interest you have ever taken in the advancement and prosperity of Ireland, the knowledge of her wants and her resources, with which your official connexion with this country has abundantly supplied you, and the careful and benevolent anxiety you have shown in your personal inspection and examination of the condition of all the public establishments of the country. The College of Cork has been already visited by your Excellency, and that of Belfast, I presume, will receive the honour of your inspection on the occasion of your approaching visit to that great emporium of Irish manufacturing and commercial industry; and, perhaps, a future journey to the west may give to the College of Galway the occasion of a similar honour. This personal examination will speak infinitely better than I can for the benefits such institutions are calculated to confer upon our country, and, I trust, must favourably commend them to your Excellency's judgment and care. I am the more impressed with the belief that we may safely rest upon your Excellency's gracious support, from the substantial proof you have already given of your desire that they should partake of all the benefits your high position will enable you to confer upon our colleges. I have already alluded to the principle of competitive examination for the selection of officers in the various departments of the state. Your Excellency has given the sanction of your high name and authority to that great principle, in establishing that the office of Registrar to the Queen's College of Galway, now vacant, and in the patronage of the Lord Lieutenant, should be so competed for by graduates of this University, at an examination which, I believe, will be held in the ensuing week. On the part of the Colleges and the University I tender your Excellency our acknowledgments of the favour thus shown, and of the value which such a recognition of the principle of examination must confer on the system itself, and on the institutions under our care. I trust that they will always be found deserving of your Excellency's support, and of honour such as that conferred upon us by your Excellency's presence here to-day.

His Excellency the Lord Lieutenant then rose and said—Mr. Vice-Chancellor and Gentlemen, I receive with pleasure and gratitude the compliment which has been so obligingly proposed by you, and conferred on me, on behalf of the Senate. Let me assure the whole of the very learned and distinguished assembly here convened, that it has been no common satisfaction to me thus to have assisted at the proceedings which have now been concluded. It is also gratifying to me, as it must be to all, I imagine, to see noble and princely halls, like that in which we now are, which are ordinarily set apart for lighter purposes, and the mere festivities of the state, made thus ancillary to the highest ends of science, art, and literature. After the similar functions which have been performed here in previous years, and especially after the full and lucid expositions which in this, as in former instances, have been delivered by the learned Vice-Chancellor of the University, I feel it would be wholly, and indeed worse than, superfluous for me to dwell, for one moment, upon the nature or object of the institution with which we are now concerned, or on those statistics of learning and instruction which are connected with it. I wish, indeed, that our meeting of this afternoon could have been graced by the presence of any

noble friend and colleague, the Earl of Charendon, the Chancellor of the University, to whose enlightened and fostering care it owes already so much; but, with Europe at war pressing on his attention, we cannot wonder, however we may grieve, at his absence. Since the foundation of the University under his auspices, its now-born senses have been successively encouraged from this place by the courteous chivalry of the Earl of Eglington and the mild wisdom of the Earl of St. Germans.

Virius Scipio, et adile academia Lest.

After all these high names, there is one still I should like not to pass over in complete silence on this occasion; and those who are best acquainted with the early history and birth-struggles of the Queen's Colleges will know best how much they are indebted to the exertions of our Minister at Athens, Mr. Wyse. When I was last with Mr. Wyse, we explored together the site of that ancient academy, that hill of Colonus, of which Sophocles sung, and the olive grove where Plato reasoned. I wish that he could now be at my side, not to trace with fond reverence the dim vestiges of buried glory, but to hail with joyous hope the future progress and expanding triumphs of his living countrymen. The recent period of my arrival in Ireland has only as yet enabled me to visit one of the Queen's Colleges, that in Cork, though I trust that my acquaintance with the others will not be long delayed. In the Queen's College of Cork I was very glad to perceive—though so cursory a visit as I was enabled to pay hardly warrants me in speaking farther of that degree of progress and prosperity which it has, I am happy to say, so undoubtedly attained—but I was very glad to see that a neat, suitable, and comely architecture has been called in to assist in the accommodation of those kindred arts and sciences which lend to, and borrow from, architecture so much mutual grace and spirit. Very pleasant it is to see that in our honoured elder sister University of this capital this happy union is now receiving such splendid illustration. All I have been able to gather concerning your associated seats of learning induces me to believe that they have adopted the fortunate medium of combining all these main branches of instruction which have hitherto accompanied the civilisation, nurtured the intellect, and embellished the taste of mankind, with those new branches of study which the discoveries of more recent times, and the wide developments of human industry and enterprise make of such high daily practical value, and which, allow me to add, the probable increased adoption of the test of merit in all the departments of national science, on which your Vice-Chancellor has remarked with so much emphasis, will render yet more indispensable. I have endeavoured, within such narrow limits as have been open to me, to adhere to this principle in all the appointments connected with the new Irish colleges. For the very few longer moments that can be allowed to me, I turn to those, whom, I am sure, even these very eminent and conspicuous men who have constituted the board of examiners on this occasion will yet allow me to consider that portion of the numerous auditory I address, which concentrates the largest share of interest and hope—I refer to the young men who have on this occasion received degrees, diplomas, and honours. Will you, my young friends, accept my cordial congratulations upon what you have achieved; my earnest exhortations to you to pursue and persevere in that honourable and brilliant career upon which you have entered. Believe me that the conditions of the world in which we live are becoming every day more and more such as to make the possession of knowledge and the mastery of mind the condition of success and the avenue to greatness; believe me also that the exercise and proper direction of the intellect, the taste, and the fancy, being with themselves pleasures and resources intrinsic to themselves, and wholly independent of success and of their worldly results. But when I talk to you of pleasure, when I talk of success, I am conscious of using far too low a key-note. Pleasure, you will admit, is not entitled to be considered as the business of life; and as for success, though it has many lofty and ennobling attributes when it is the reward of honest diligence, and the test of sue powers conscientiously used; and though I am at this moment exhorting you in laying out the future plans of your lives to aim at success, yet I would have you remember that this very success is compatible with lax principles, with vulgar feelings, with vicious habits, and may be reached by those who can show no title to the love of their fellows or the favour of their God. Be ye not a yet higher and more real ambition. It is not who you are, but what you are, that really signifies. The situations you may fill in life are beyond your control, and though they should be as exalted and splendid as your most soaring dreams could picture, they might leave you mean, unhonoured, and unloved. The characters you may make for yourselves, in humble dependence on the blessing from above, are in your own power, and can never disappoint or fail you. Each act and habit of virtuous self-denial, the active exercise of Christian love, the life-long obedience of faith, these are the things which will secure to you, not such transient honours and distinctions as we have this day awarded you, but the supreme blessing and the immortal crown.

The assembly then separated.

Παθόντων τῶν Ἀρσινόων δαίτη
 τὸ γὰρ τὸ μαλθεῖν ἱρᾶς τε καὶ παθεῖν ἱρᾶς
 ἐτίσασαι συμῶν σὺν ἡγεσίν
 τὸ δ' ὅτε ταν τις ἀμύλοχον Ἀστ. α'
 καρδίᾳ κόπον ἐνυλίσσῃ,
 τραχέϊα διαμαντῶν
 ἱπποκνώσασα κρίτει ταδίς
 "Υβρεν ἐν ἡνίχῃ. τὴν οὐδὲ Παρφυρίαν μύθεν
 παρ' αἶσαν ἔξεραβίζων· κέρως δὲ φίλτατος
 ἐόντος ἐι τις ἐκ ὄμων φέρει.
 βίη δὲ καὶ μεγάλαν ἱσχυρὰν ἐν χροῶν. Εστ. α'
 Τῆρος Κόλῃ ἐκπύργωντος εὐ μιν ἀνέστη,
 οὐδὲ μὲν βασιλεὺς γιγάντων· ἀμύθεν δὲ κερωνῇ
 τῶν τοι' Ἀτθίωνος· ἐς εὐμενεί νῶν
 Ἰσχυρῶντος ἔκαστος ἐκπύργωντος
 ὡς ἐπὶ Παρφυρίᾳ ἀσπᾶς τε κέρως.
 ἔπειτα δ' ὡς Χρόνῳ ἔκαστος
 ἡ βασιλεὺς ἀρεταῖς
 εὐμενείων ἀσπᾶς
 θύγῃσι εὐδῶς· τῶν δ' ἔχει
 ἐξῆς ἀπ' ἀρχῆς. πολλοὶ μὲν γὰρ αἰεταὶ
 νικηφόροι ἐν ἀέθροις θηρίων καὶ θαλάσσης
 ἐκπύργωντος ἔκαστος ἐν μάχῃ
 τὰ δὲ καὶ ἀνδράσιν ἡμῖν. Αστ. β'
 εἰμὶ δ' ἀσχυρὸς ἀναβήμεν
 σῆσαν μαρμαρυγίαν
 λῆρῃ τε καὶ φθίγγῃσι μαλθεῖν,
 μὲν κέρως ἐκπύργωντος. τὸ δ' ἐκ ποσὶ μοι τῶν
 ἰσχυρῶν κέρως, ὡς καὶ, τῶν τοι' ἀσπᾶς,
 ἐμῇ τοιᾶν ἀμφὶ μαρμαρυγίᾳ.
 τολαισμίμῃσι γὰρ ἔχῃσι μαρμαρυγίᾳ Εστ. β'
 Ὀλεμῶν τε θεόγονον εὐ καὶ ἀσχυρῶν,
 οὐδὲ Κλαυμῶντος ὡς καὶ Ἰσχυρῶντος
 ἀσπᾶς δὲ τῶν τοι' Ἰσχυρῶντος λόγῳ φέρει
 τὸν ἐπὶ ποσὶ· Ὀλεμῶντος ἐν ἐκπύργωντος ὡς
 οὐδὲ Κλαυμῶντος ἀσπᾶς μαρμαρυγίᾳ,
 ὅτε δ' ἀπ' Ἀργεὺς φῶντος Στρ. γ'
 ἐκπύργωντος ὡς καὶ Ἰσχυρῶντος,
 εὐδῶς εἰσι μαρμαρυγίαν
 "Φοῖβ' ἐκπύργωντος ἐκπύργωντος
 ἐκπύργωντος, καὶ, σὺν λῆρῃ. θαλάσσης
 ἐκπύργωντος ποσὶν αἰσῶν Ἀσπᾶς ἐκπύργωντος
 ἐκπύργωντος ἐκπύργωντος ἐκπύργωντος."

2. (a) To what historical event has Pindar been supposed to allude in the introduction to this ode?

(b) What is the link of connexion between the digression as to Alcmaeon and the subject of the ode?

(c) Upon what mythological principle are warlike qualities attributed to Hesychia, vv. 8-12?

3. (a) In what rhythm is the eighth Pythian ode composed?

(b) Compare the Aeolian and Dorian odes of Pindar, with reference to their metre, and the tone of sentiment which prevails in each.

4. (a) Relate the circumstances under which the Pythian games were elevated into a national festival. Give the date of the first celebration.

(b) In one respect they had a superiority over the Olympiad.

(c) Describe the effect of the Pan-Hellenic festivals upon the Grecian mind.

(d) To what does Strabo trace their origin?

II. 1. Translate ÆSCHYLUS, AGAMEMNON, 281-316, writing brief notes where you deem it necessary.

"Ἡρακλῆος ἴσος λαμπρὸν ἐκπύργωντος σῆλας.
 φρεσὶς δὲ φρεσὶν δὲρ' ἀπ' ἀγγέλου ποσὶ
 ἐκπύργωντος. ἴσος μὲν πρὸς Ἡρακλῆος
 Ἀγῶντος μέγας δὲ ποσὶν ἐκπύργωντος
 "Ἀδων αἶσος Ζητὸς ἐκπύργωντος,
 ἐκπύργωντος τε, ποσὶν ἐκπύργωντος
 ἰσχυρὸς ποσὶν λαμπρὸς πρὸς ἴσος
 ποσὶν, τὸ χρυσόφρονος ἐκπύργωντος

εἶδος παραγγεῖλαι Μαιεύας σκευαῖς
 ἔδ' ὅστι μῶλλον οὐδ' ἀφραστῆρας ἔσται
 νυκταίας παρθεῖαι ἀγγεῖλαι μύραι
 ἐκείν' ἔδ' ἡμετέροις φῶς ἐπ' Εἰρήνης βόας
 Μαιευτικῶν φέλαξ σκευαῖαι μολύν.
 οἱ δ' ἀντιλαμπρὰ καὶ παραγγεῖλαι πρὸς
 γραίας ἐκείνας θυμὸν ἀφαιντὶς παρ,
 σθένους λαμπρῶς δ' οὐδὲν μαρμαίρου,
 ὑπερβυθῶτα πιδόν' Ἀστυοῖ, ἔκταν
 φαιδρὰς σέληνας, πρὸς Καθαράτος λίπας
 ἔχουσαν ἄλλαν ἐκείνην ποταμὸν παρθε.
 φῶς δὲ τηλέτορτον οὐκ ἔσται
 φρεσὶ, πλὴν καὶ αὐτὰς τῶν ἐσθλῶν
 λήγουσ' ὅτις Γαργῆτιν Ἰσάφιν φῶς
 ὄρεσ' ἐπ' Ἰσ' Αἰγυπιακοῦν ἡμετέροις
 ἄρμεν ὁσπρὸν ρὺ χατίζουσι παρθε.
 πρὸς αὐτοὺς δ' ἐνδαιντὶς ἀφένει μύραι
 φλογὸς μύραι πύγωνα, καὶ Σαρματικῶν
 παρθεῖαι οὐδὲν πρὸς ὑπερβυθῶτα πρὸς
 φλόγους αὐτοὺς Ἰσάφιν, ἐπ' ὁσπρὸν
 Ἀραχταῖον αὐτοὺς, ὁσπρὸν αὐτοὺς
 αὐτοὺς Ἀραχταῖον ἐπὶ τῶν σθένος σθένος
 φῶς τῶν οὐκ ἔσται Ἰσάφιν παρθε.
 τῶν αὐτοὺς καὶ λαμπρῶν πρὸς
 ἄλλος παρ' ἄλλαν ὁσπρὸν πρὸς
 καὶ δ' ὁ πρὸς καὶ τῶν αὐτοὺς ὁσπρὸν.
 τῶν αὐτοὺς ὑπερβυθῶτα ἐπὶ τῶν
 αὐτοὺς παραγγεῖλαι ἐπὶ τῶν αὐτοὺς.

2. Describe the *κατασκευαία*, citing any passages of classic authors you may remember in which it is referred to.

3. In honour of what deities was the game celebrated? In what legend, most probably, is its origin to be sought?

III. 1. The three grand divisions of the poetry of the Greeks correspond to the three different stages of their civilisation?

2. Lyric poetry, among the Greeks, was cultivated by two widely different schools of poets: point out the contrast in form and matter which the compositions of these schools present.

3. Characterize the two stages of the choral lyric. Who are the leading representatives of each?

4. What are the elements of which Pindar's poetry is composed?

5. Point out the difference between the mode of treatment of mythical narrative in epic and lyric poetry, and give examples from each.

6. Trace the gradual development of tragedy out of the chorus sung in honour of Dionysus.

7. How does *Æschylus* stand related to Pindar in the history of Greek literature?

IV. Translate into Greek prose:—

P. How say you, Hylas, can you see a thing which is at the same time unseen? H. No, that were a contradiction. P. Is it not as great a contradiction to talk of conceiving a thing which is unconceived? H. It is. P. The tree or house, therefore, which you think of, is conceived by you? H. How should it be otherwise? P. And what is conceived is surely in the mind? H. Without question, that which is conceived is in the mind. P. How then came you to conceive a house or tree existing independent and out of all minds whatever? H. That was, I own, an oversight.

Translate into Greek verse:—

That time of year thou mayest in me behold,
 When yellow leaves, or none, or few, do hang
 Upon those boughs which shake against the cold,
 Bare ruin'd choirs, where late the sweet birds sang.
 In me thou see'st the twilight of such day
 As after sunset fadeth in the west,
 Which by-and-by black night doth take away,
 Death's second self, that seals up all in rest.
 In me thou see'st the glowing of such fire,
 That on the ashes of his youth doth lie,
 As the death-bed whereon it must expire,
 Consum'd with that which it was nourish'd by.
 This thou perceiv'st which makes thy love more strong,
 To love that well which thou must leave ere long.

27th September, 1855, 9 o'clock, a.m.

LATIN.—*Examiner, Charles Parsons Reichel, B.D.*

Translate the following passages into English prose:—

I.—TACITUS, ANNALS.

1. Variis deinde casibus jactatus et multorum odia meritis reus haud tamen sine invidia Senecae damnatur. Is fuit Publius Sullius, imperitante Claudio terribilis ac venalis, et mutatione temporum nos quantum inimici exasperent demissus, quoque se nocentem videri quam supplicem mallet. Ejus opprimendi gratia repetitum erodebatur Senatus consultum penamque Cinciae legis adversum eos qui praesto causas oravissent. Nec Sullius quatuor set expostatione abstinere, praetor ferociam animi extrema senectute liber, et Senecam increpans infensum amicis Claudii, sub quo iustissimum exilium pertulisset. Simul studiis incribis et juvenum imperitiae notum vivere iis qui vividam et incorruptam eloquentiam tuendis civibus exerceant. Se quatuordecim Germanici, illum domus ejus adulterum fuisse. An gravius existimandum specie litigatoris praemium honestae operae assequi, quam corrumpere cubacula principum feminarum? qua sapientia, quibus philosophorum praeceptis intra quadriennium regiae amicitiae ter milibus sestertium paravisset? Romae testamenta et orbes velut indagare ejus capis, Italiam et provincias immenso fenoce hauriri, ut sibi labore quiescitum et medicam pecuniam esse.

2. Quis et illa objectabat: principio auri vitare Thraseam solenne jurjurandum: non-occupationibus votorum non adesse, quamvis quiduocimviri sacerdoto praeditum.

II.—CICERO, DE FINIBUS, BOOK IV.

1. Quid delicta igitur mutare principia naturae? Quid enim dicis, omne animal, simul atque sit certum, applicatum esse ad se diligendum, esseque in se conservando occupatum? Quin potius ita dicis, omne animal applicatum esse ad id quod in eo sit optimum, et in ejus una esse occupatum custodiam; reliquiasque naturas nihil aliud agere, nisi ut id conservent quod in quaque optimum sit? Quomodo autem optimum, si bonum praeterea nullum est? Si autem reliqua adpetenda sunt, cur quod est ultimum rerum adpetendarum, id non aut ex omnium curis aut ex plurimarum et maximarum adpetitione concluditur? Ut Phidias potest a primo instituisse signum idque perficere, potest ab alio inchoatum accipere et absolvere. Huc est sapientia similis: non enim ipsa genuit hominem sed accepit a natura inchoatum. Hanc intus, debet institutus illud quasi signum absolvere. Qualem igitur hominem inchoavit? et quod est munus, quod opus sapientiae? Quid est quod ab ea absolvi et perfici debet? Si nihil in eo perficiendum est, praeter motum ingenii quendam. id est, rationem; necesse est, huc ultimum esse ex virtute vitam fingere: rationis enim perfectio est virtus: sin nihil nisi corpus, summa erunt illa, validedo, vacuitas doloris, pulchritudo et caetera. Nunc de hominis summo bono quaeritur.

CICERO, DE NATURA DEORUM.

2. Hoc, per ipso Deo, de quibus loquimur, quale tandem est? Natura, si tantum modo ad cogitationem valent, nec ullam habent soliditatem nec eminentiam, quid interest, utrum de Hippocentauris an de Deo cogitemus? Omnem enim talem conformationem animi caeteri philosophi motum inanem vocant: vos autem adventum in animos et introitum imaginum dicitis. Ut igitur Ti. Gracchum quum videor in capitolio concionantem videre de M. Octavio deferentem stellam, tum cum motum animi dico esse inanem: tu autem et Graeci et Octavii imagines remanere, quum in Capitolium quum pervenerim, tum ad animum meum refoverant: hoc idem fieri in Deo, cujus crebra facie pellantur animi: ex quo esse beati atque aeterni intelligantur. Fac imagines esse, quibus pallescant animi: species dumtaxat obijcitur quaedam: num etiam cur ea beata sit? cur aeterna?

III.—LUCRATIUS, BOOK III.

Illud in his rebus aequagnam sumere possis,
Democriti quod sancta viri sententia ponit,
Corporis atque animi primordia singula, privia
Apposita, alternis variare ac necesse membra.
Nam quum multa sunt animi elementa minora
Quam quibus et corpus nobis et viscera constant,
Tum numero quoque concedunt, et rara per artus
Diserta sunt, dumtaxat ut hoc promittere possis,
Quantula prima quaeant, nobis injecta, ciere
Corporum sensiferos motus in corpore, tanta
Intervalla tenere exordia prima animi.
Nam neque pulveris interdum sentinus adhaesum
Corpore, nec membris incussum sidere cretam:
Nec ubulam noctu, neque aranei tenuis fila
Obruta sentinus, quando obrethuntur cuntes:
Nec supra caput ejusdem cecidisse victam
Vestem, nec plumas avium papposque volantes,
Qui nimia levitate cadunt plerumque gravatum:
Nec repentis itum quoque viscusque assuantis
Sentinus, nec prius pedum vestigia quoque,
Corpore quae in nostro culices et caetera possunt.

Usque adeo prius est in nobis multa ciondum
 Quam primordia sentiant concessa animi
 Semina, corporibus nostris inmixta per artus,
 Et quam, intervallis tantis teditantia, possint
 Concursare, coire et dissuolare vicissim.

IV.—MARTIAL.

Candido, *inter philosophos*, haec sunt tua Candido, *philosophus*,
 Quae tu magniloquus nocto dieque sonas.
 Te Lacedaemone velat toga lata Galea,
 Vel quam seposito de grege Parus dedit :
 At me quae passim est furias et corum tauri,
 Noluerit dici quam pila prima suam.
 Misit Agenorae Cadmi tibi terra lacernas :
 Non vendas mummis coctis nostra tribus.
 Tu Libyae Indis suspendis dentibus orbem,
 Fuleitur testa fragilis mensa mihi.
 Immodici tibi flava tegant chrysaeolae nulli :
 Concolor in nostra, cammaro, luco rubes.
 Grex tuus Iliaco poterat certare ministro :
 At mihi succurrit pro Ganymede manus.
 Ex opibus tantis veteri fidoque sedali
 Das nihil et dicis Candido *inter philosophos* ?

V.—PERSIUS.

Vindicta postquam mens a praetore recessi,
 Cur mihi non liceat, jussit quodcumque voluntas
 Excepto si quid Masuri rubrica vetavit ?
 Disce : sed ira cedat naso, ragosaeque saepe,
 Dum votores avias tibi de pulvinace revollo.
 Non praetoris erat stultis dare tenuia rerum
 Officia, atque animi rapidae permittere vitae :
 Sambucam citius caloni aptaveris alto.
 Stat contra ratio, et secretam gemit in aurum
 Ne liceat facere id quod quis visibilibus agendo.
 Publica lex hominem naturaeque continet hoc fas,
 Ut teneat vetitae inscitia debilis actus.
 Diluis helleborum corto compensare puncto
 Nequius examen ? vetat hoc naturam modicam.
 Navem si possit sibi peronatus amitor
 Luciferi radiis, exclamet Melicerta perisse
 Frontem de rebus. Tibi recto vivere tale
 Ars dedit ? et veri speciem dignoscere callos,
 Ne qua embaerato mendosam teneat auro ?
 Quaeque sequenda forent, quaeque vitanda vicissim
 Illa prima creta, mox haec carbones aeterni ?
 Es medicus voti, presso laro, dulcis amica ?
 Jam nunc adstrigas, jam nunc granaria lares ?
 Inque luto fixum posis transcendere numum
 Nec glutu sorbere salivam Mercenariam ?
 Haec mea sunt, teneo, quam vere dixeris, este
 Liberque ac sapiens, praetoribus ac Jove dextro.

A. 1. Comment on the passages you have translated generally, so as to show you fully understand them.

2. Explain the words in I. 1, "Senatus consultum praeque Cinciae legis." What was the date of the lex Cincia, and under what Emperors and with what modifications was it re-enforced ?

3. Comment on the "Solemnem iurandum" and the "Nuncupatio votorum," spoken of in I. 2. What was the quindecimviralis sacerdotium ?

4. Explain the difference between the system of the Stoics and that of the Peripatetics.

5. State the historical fact alluded to in II. 2, and give a brief account of the career of the two Gracchi.

6. Specify the constitutional changes introduced by Sulla in his dictatorship.

7. What was the division of the provinces introduced by Augustus ? Mention the chief differences between the administrators of the two kinds of provinces.

8. Briefly characterize the imperial constitution as settled by Augustus.

B. 1. Compare the style of Lucretius with that of Virgil, in point of verse-structure and of language, instancing, with regard to the latter, any expressions you may recollect borrowed by Virgil from Lucretius.

2. Mention the chief Latin classic authors down to the time of Claudian, giving the dates of their flourishing, and the chief events which took place during their lives.

27th September, 1855, 2 o'clock, p.m.

LATIN.—*Examiner, Charles Parsons Reichel, B.D.*

I. Translate the following passages into English prose :—

SURTORI D. OCTAVIUS CESAR.

1. Ex militaribus copiis legiones et auxilia provinciarum distribuit. Classes Miseni et aliorum Ravennae ad tutam superi et inferi maris collocavit. Certum numerum partim in urbis partim in sui custodiam allegit: dimissa Caligularum manu quam usque ad devictum Antonium, item Germanorum quam ad cladem Varianam inter arinigeros circa se habuerat. Neque tamen unquam plures quam tres cohortes in urbe esse passus est, easque sine castris: reliquis in hiberna et aestiva circa finitima oppida dimittere assuevit. Quidquid autem ubique militum esset, ad certam stipendiorum praemiorumque formulam adstrinxit, definitis pro gradu cuiusque et temporibus militias et commodis massenium: ne aut otioso aut inopia post missionem sollicitari ad res novas possent. Utque perpetuo ac sine difficultate sumptus ad tuendos eos prosecuendosque suppeteret, aerarium cum vectigalibus novis constituit. Et quo celerius ac sub manu annuntiarum cognoscere posset quid in provincia quaque gereretur, juvenes primo modicis intervallis per militares vias, dehinc vehicula disposuit: commodius id visum est, ut qui a loco fidem perferrent literas, interrogari quoque, si quid res exigere possent.

2. Aleae rumor nullo modo expavit, lusitque simpliciter et palam oblectamenti causa etiam senex: ac praeterquam Decembri mense aliis quoque festis profectisque diebus. Nec id dubium est autographa quaedam epistola: "Comavi" ait "mi Tiberi cum fide. Accesserunt convivae Vitiensis et Silvii pater. Inter coenam ludium peroravit et huius et hodie. Talis enim iocunditas, ut quisque canem aut acinonem miserat, in singulos talos singulos denarios in medium conferebat: quos tollebat universos qui Venerem iocorant." Et rursus aliis literis, "Nos, mi Tiberi, quinquatribus satia iacunde egimus, lusimus enim per omnes dies, fortunae aleatorum calcicimus. Frater tuus magnis clamoribus rem gessit. Ad remanens tamen perdidit non multum, sed ex magnis detrimentis paulatim retractus est. Ego perdidit viginti milia nummum, mox nomine, sed quam effuse in lusa liberalis fuissim, ut solco plerumque. Nam si quas manus remis cuicunque exegissem aut retinuissem quod cuique donavi, vicissem vel quinquaginta milia. Sed hoc malo. Benignitas enim mea me ad ecclestiam gloriam efforet."

Comment on these passages: in explanation of the first of them, quoting the substance of statements from the First Book of the *Annals* of Tacitus; and with regard to the second, explaining the game of dice as alluded to in it.

II. Translate freely into Latin prose the following passage :—

It would be an extremely profitable thing to draw up a short and well authenticated account of the habits of study of the most celebrated writers with whose style of literary industry we happen to be most acquainted. It would go very far to destroy the absurd and pernicious association of genius and idleness, by showing that the greatest poets, orators, statesmen, and historians—men of the most brilliant and imposing talents—have actually laboured as hard as the makers of dictionaries and the arrangers of indexes; and that the most obvious reason why they have been superior to other men is, that they have taken more pains than other men. Gibbon was in his study every morning, winter and summer, at six o'clock. Burke was the most laborious and indefatigable of human beings. Leibnitz was never out of his library. Pascal killed himself by study. Cicero narrowly escaped death by the same cause. Milton was at his books with as much regularity as a merchant or an attorney; he had mastered all the knowledge of his time: so had Homer. Raffaele lived but thirty-seven years; and in that short space carried the art so far beyond what it had before reached, that he appears to stand alone as a model to his successors. There are instances to the contrary; but, generally speaking, the life of all truly great men has been a life of intense and incessant labour. They have commonly passed the first half of life in the gross darkness of indigent humanity, overlooked, mistaken, contemned, by weaker men; thinking while others slept, reading while others rioted, feeling something within them that told them they should not always be kept down among the dregs of the world; and then, when their time was come, and some little accident has given them their first occasion, they have burst out into the light and glory of public life, rich with the spoils of time, and mighty in all the labours and struggles of the mind. Then do the multitude cry out, "A miracle of genius!" Yes, he is a miracle of genius, because he is a miracle of labour; because, instead of trusting to the resources of his own single mind, he has ransacked a thousand minds; because he makes use of the accumulated wisdom of ages, and takes as his point of departure the very last line and boundary to which science has advanced; because he has ever been the object of his life to assist every intellectual gift of nature, however munificent and however splendid, with every resource that art could suggest, and every attention diligence could bestow.

SIDNEY SMITH.

28th September, 1855, 9 o'clock, a.m.

COURSE I.—PROSE COMPOSITION IN ENGLISH.—*Examiner, Rev. C. F. Darley, A.M.*

SUBJECT FOR ESSAY:—The Life and Works of Samuel Johnson.

C

29th September, 1855, 9 o'clock, a.m.

MODERN LANGUAGES.—*Examiner, Professor Frings, Ph.D.*

GERMAN.—I.

A.

1. Name the great stock from which the Germanic or Teutonic languages are derived.
2. Into how many divisions does the Teutonic branch fall? Name them.
3. During which centuries was the Old High-German, also called Alemannic, spoken, and in which countries?
4. During what period does the Middle High-German range?
5. How do you account for the *Sas* being feminine, and the *Moon* masculine, in German?
6. What period may be called the golden age of German poetry?
7. Name the most celebrated productions of the so-called golden age of German poetry.
8. When did German poetry decline, and what were the causes of that decline?
9. Compare the Greek, German, French, and English articles with one another, and specify their characteristics.

B.

1. Put the sentence "*you ought to rise earlier*" into the past tense, and exhibit a reverse grammatical law in Latin, French, and German.
2. State the cases in which pleonasm is admissible in German, while in the same instances they are condemned in English and French.
3. State the peculiarities of the verb in a German sentence with respect to its position.
4. What difference is there between *kennen* and *wissen*?
5. Name the prepositions which govern both the *dative* and *accusative* in German, and illustrate the difference by comparing Latin, German, and English.
6. Explain the pronouns *mein, dein, seiner*, in *Vergiss mein nicht!*—*Ich gedanke dein*;—*Erinnerst du dich seiner*?

II.

Translate into German:—

I have undertaken to write the history of Rome, from its earliest period to the time when Cæsar Augustus was acknowledged as the sovereign of the whole Roman world. I must begin at the time when settlers from various nations united together and founded a new people; and my goal will not be reached until I arrive at the period when this people had subjected millions to its sway, imparting to them its language and laws; when Rome was mistress of the world, from "the rising to the going down of the sun;" and when the last of the kingdoms arising out of Alexander's conquests had become a Roman province. In the early period, so firmly established were the Roman institutions, and so faithfully maintained from age to age, that although few trustworthy notices of heroic individuals have been preserved, we still possess materials from which we may induce certain general conclusions respecting the social economy of the nation; but in the latter period we shall find this once compact and powerful state dissolving into a confused assemblage of many peoples, and hastened toward entire disorganization.

NIEBUHR's *Roman History*.

FRENCH.—I.

A.

1. Relate shortly the history of the French language, and of the two great dialects into which it was formerly divided, noticing the origin of its name.
2. When did the French or Anglo-Norman element first appear in the English language?
3. Which are the earliest lasting monuments of the history of French literature?
4. Which are the general characteristics of the first French verse-writers?
5. How does the poetry of France differ from that of other countries?
6. In how far does Louis XIV. deserve credit for the high degree of perfection which French literature attained during his reign?

B.

1. State all you know respecting the flexibility of the past participle in French.
2. Translate into French: "Why do you not make him rise earlier?—Why do you not make them learn their lessons?"
3. Translate into French: "Will you be kind enough to introduce me to them?—Will you be kind enough to introduce them to me?"
4. What is the meaning of "*C'était à qui lui rendrait des services*?"
5. Translate into French: "What has become of the children?—I do not know what will become of them."
6. What verbs require the infinitive following to be preceded by the preposition *à* in French? State the case in general terms.
7. Name as many as you know of the verbs which require the infinitive following not to be preceded by any preposition whatever in French, though in English they be preceded by the preposition *to*.
8. State the use of the *imperfect* and of the *preterit* in French.

II.

Translate into French:—

It was the custom of Frederick the Great to rise at five o'clock in the morning, and sometimes earlier. He commonly dressed his hair himself, and seldom employed more than two minutes for that purpose. His boots were put at his bed side, for he scarcely ever wore shoes. After he was dressed, his adjutant brought him a list of all the persons that had arrived at Potsdam, or had departed thence, and an account of whatever had occurred in the garrisons. When he had delivered his orders to this officer, he retired into an inner cabinet, where he employed himself in private until seven o'clock. He then went into another apartment, where he drank coffee or chocolate, and here he found upon the table all the letters addressed to him. After reading all these letters, he wrote hints or notes in the margin of those which his secretaries were to answer. None of the answers, however, were sent off till they had been read, or many of them signed, by the king. At one o'clock he sat down to dinner. He had no carver; but did the honours of the table himself, like a private gentleman.

Tonvers's History of the Reign of Frederick II.

ITALIAN.—I.

A.

1. What Italian writer has been the favourite poet of Europe, and for what reasons?
2. What was the general character of the Italian poets in the latter half of the sixteenth century?
3. Relate what you know of Tasso's life.
4. Under what circumstances was his *Gerusalemme Liberata* finished?
5. Wherein does the chief excellence of the *Gerusalemme Liberata* consist, and which are its defects?
6. What is the character of the Italian poets of the seventeenth century?
7. When did Bojardo live, and which is his principal work?
8. What century deserves to be called the golden age of Italian literature, and for what reasons?

B.

1. State the difference between "*Io l'ho veduta dipingere*" and "*Io l'ho veduto dipingere*;" in both cases *l'* standing for *la*.
2. When is the infinitive in Italian preceded by the preposition *da*? Give some examples.
3. Translate into Italian: "I do not think that we have been seen."
4. What difference is there between "*Un bicchiere da vino*" and "*Un bicchiere in vino*," "*Che hai tu saputo di lei*" and "*Che hai tu saputo da lui*?"
5. What pronouns in Italian are called *affissi*, and why are they so called?
6. State what you know respecting the pronoun "*loro*."
7. When do the pronouns *sì, ti, ci, etc.*, change the vowel *i* into *e*; and when are two personal pronouns so contracted as to form but one word in Italian.
8. Translate into English: "*Gli vene fatto di correggerlo*."

II.

Translate into Italian:—

Industry is not only the instrument of improvement, but the foundation of pleasure. Nothing is so opposite to the true enjoyment of life as the relaxed and feeble state of an indolent mind. He who is a stranger to industry may possess, but he cannot enjoy, for it is labour only which gives the relish of pleasure. It is the appointed vehicle of every good man. It is the indispensable condition of our possessing a sound mind in a sound body. Sloth is so inconsistent with both, that it is hard to determine whether it be a greater foe to virtue or to health and happiness. Inactive as it is in itself, its effects are fatally powerful.

BLAIR—On the Duties of the Young.

28th September, 1855, 9 o'clock, a.m.

COURSE II.—ENGLISH PHILOLOGY AND CRITICISM.—Examiner, Rev. C. F. Dorley, A.M.

1. The popular account of Hengist and Horsa's invasion of Britain has elements which are fictional or traditional rather than historical and true. Adduce full evidence confirming this statement, and approximate to the real state of the case.
2. Mention the various dissimilarities—whether as regards boundaries, dialects, literature, nomenclature, &c.—that existed in the early Saxon times, between the Saxon of the Continent and the Saxon of England. Answer this question fully.
3. According to Mr. Garnett, the ancient language of Gaul is Cambrin rather than Gaelic; and the evidence for this lies in a certain set of facts. Mention these facts and explain them.
4. Give a full account of the Dual Number as exemplified in Hebrew, Latin, Greek, Anglo-Saxon, German, Danish, Swedish, Old Norse, Icelandic.
5. Mention the derivations of the following words: "any," "which," "such," "ilk," "ought," "each," "either," "one," (as in the phrase, "one does so and so").
6. Account for the letter "j" in the word "could;" give the true Anglo-Saxon form and enumerate the remaining forms of the verb "can" in Anglo-Saxon.

THE CANTERBURY TALES.

A clerk ther was of Oxenforde also,
 That unto logike hadde long ygo,
 As leue was his here as is a rake,
 And he was not right fat, I undertake;
 But loked holwe and therto soberly,
 Ful thredbare was his overost courtsey,
 For he hadde geten him yet no benefice,
 Ne was nought worldly to have an office;
 For him was lever haas at his beddes hed,
 A twenty bokes, clothed in black or red,
 Of Aristotle and his philosophie,
 Than robes, riche, or fidel, or sautrie;
 But all be that he was a philosopere,
 Yet hadde he but litte gold in cofre,
 But all that he might of his friends bente,
 On hokes and on lerning he it spente,
 And besily gas for the soules prais,
 Of hem that gave him wherwith to seke.
 Of studie take he meste care and hede,
 Not a word spake he more than was nede,
 And that was said in forme and reverence,
 And short, and quike, and ful of high sentence.
 Scurving in moral vertue was his speche,
 And gladly wolde he lerne, and gladly teche.

A SERJEANT OF THE LAWE, WITTO & WISE,
 That often hadde yben at the parais.
 Ther was also ful riche of excellence,
 Discrete he was, and of gret reverence;
 He semed swiche, his words were so wise,
 Justice he was ful often in assise,
 By patent and by pleine commissioun,
 For his science, and for his high renoun,
 Of fees and robes had he many on,
 So grette a purchasour was no wher nou;
 All was fee simple to him in effect,
 His purchasour might now ben in suspect.
 Nowher so busy a man as he ther was,
 And yet he semed besier than he was.
 In termes hadde he cas and domes alle,
 That fro the time of King Will weren alle;
 Therto, he coude endite, and make a thing,
 Ther coude no wight pinche at his writing;
 And every statute, coude he, plaine, by rote.
 He rode but homely in a medlee cote,
 Girt with a point of silk, with harnes smale;
 Of his array, tell I no lenger tale.

A FRANKELIN was in this compaignie,
 White was his berd, as is the dayesie;
 Of his complexion—he was sanguin,
 Wel loved he, by the morwe, a sop in win;
 To live in delit was ever his wone,
 For he was Epicurus oven son,
 That held opinson, that plain delit,
 Was, veraily, felicitie parfite.
 An housholder, and that a grette was he,
 Saint Julian, he was in his contree;
 His hrede, his ale, was alway after on,
 A better envyned man was no wher nou;
 Withouten bake mete, never was his hous,
 Of fish and flesh, and that so plementous;
 It snowed in his hous of mete and drink,
 Of all delinties that men coude of thynke;
 After the sondry seasons of the yere,
 So changed he his mete and his compere.
 Full many a fat partrich hadde he in mew,
 And many a breme, and many a lace in stew;
 Wo was his cote but if his sauce were
 Poinset, and sharpe, and redy all his gere;
 His table dormant in his halle alway,
 Stode redy covered all the longe day.

At sessions ther was he lord and sire,
 Ful often time he was knight of the shire;
 An anelace and a gipeiere, all of silk,
 Heng at his girdel, white as morwe milk;
 A shereve hadde he ben, and a countour,
 Was no wher swich, a worthy Vavasour.

Render the above extracts into modern English, and point out any peculiarity of grammar or composition generally that may present itself.

28th September, 1855, 2 o'clock, p.m.

COURSE II.—ENGLISH PHILOLOGY AND CRITICISM.—*Examiner, Rev. C. F. Darley, A.M.*

1. Mention the work which, according to Warton and Tyrwhitt, is the principal source of the "Knight's Tale."

2. A portion of Chaucer's description of the Temple of Mars in the "Knight's Tale," is borrowed from a Latin poet. Name the poet, and quote or indicate the portion thus borrowed.

3. What comparatively modern poet has given a version of Chaucer's "Knight's Tale?"

ESSAY:—"The Knight's Tale."

29th September, 1855, 9 o'clock, a.m.

Logic.—*Examiner, Rev. James McCosh, LL.D.*

1. Give a general summary of the topics discussed in the "interpretation," the "prior analytics" and "posterior analytics" of Aristotle.

2. Give a psychological account of the formation of the logical "notion" or "conception." What is meant by higher and lower conceptions? What are the powers of a conception?

3. State and examine the distinction which has been drawn between immediate and mediate reasoning. In how many different forms may the proposition "man is responsible" be put, without the use of a middle term?

4. When is the predicate quantified in the common logic? It is proposed to quantify the predicate universally; what are the supposed advantages of this new scheme? Give reasons for or against it.

5. Mention some of the more famous notations of the syllogism, that is, modes by which the relations between the conceptions or terms may be represented to the eye, and examine the relative merits of these schemes.

6. Enunciate the logical principle of contradiction. Name some eminent philosophers who have made extensive use of it? Does the denial of mathematical truth involve a contradiction? When it is said that "the will is free," and that "volitions have a cause," are the two propositions contradictory?

7. Discuss the question as to whether laws are in nature itself or in the mind of the observer; and in doing so, point out the exact value of ideas or conceptions in scientific investigation. What is meant by the phrase "colligation of facts?" Is it superior to "co-ordination of facts?"

8. Are there ideas and conceptions involved in physical investigation which cannot be derived from experience? Specify the ideas or conceptions of this description supposed to be involved in the mechanical sciences? Can they enable us to make mechanical science strictly demonstrative?

9. What are the precise ends proposed to be accomplished by the formula of inductive logic, and the criterion of inductive truth recommended by Whewell, and the canons of induction proposed by Mill? Can they accomplish these ends? Examine their relative merits.

10. How is a natural classification of material objects, organic and inorganic, distinguished from an artificial one? What advantages does the one possess above the other?

11. Whence arises our belief in the permanence of the laws of nature? Can we conceive the laws of nature to be changed?

20th September, 1855, 2 o'clock, p.m.

METAPHYSICS.—*Examiner, Rev. James McCosh, LL.D.*

1. Name the principal schools of philosophy in the Pre-Socratic period of ancient Greece, indicate the favourite speculations of each of these schools, and state particularly what we know, and from what sources, of the tenets of the Pythagorean or Italic school.

2. Give an analysis of any philosophic work of Plato with which you may be acquainted; and in doing so, point out what you regard as his method of inquiry and his principles.

3. Name the principal sects in ancient Greece and Rome subsequent to the age of Socrates. Sketch briefly the peculiarities of each, and take a critical review of the manner and method of the Academics.

4. Give a historical and critical account of the senses in which the word "idea" has been employed, and of the parts which it has played in philosophy, in ancient and modern times, among British and Continental philosophers.

5. Examine the following maxims and trace them to their authors: (1.) *Nihil est in intellectu quod non prius fuerit in sensu.* (2.) *Nihil est in intellectu quod non prius fuerit*

in sensu, nisi intellectus ipse. (3.) Nihil est in sensu quod non prius fuerit in intellectu. Did Locke adopt the first of these? What seems to be the precise meaning of the second? Does it suffice to express the full facts?

6. What is the precise method followed professedly, or in fact, by Kant, in his "Critick of Pure Reason?" Is it the same with that of Bacon or Descartes? Illustrate and examine that method.

7. What are the functions of the pure reason according to Kant? What are the paralogisms of the pure reason? Examine, in an especial manner, his critical remarks upon the soul considered as a substance.

8. Wherem did Fichte differ from Kant? Did, or did not, Fichte legitimately follow out the principles of Kant? How may the excessive subjective tendency of both be most successfully met?

9. Wherem did Dr. Thomas Brown agree with, and wherem did he depart from, the school of Reid? Can he be identified with the Sensational School of France?

10. Give a sketch of the controversy between Cousin and Hamilton as to the "finite" and "infinite," the "conditioned" and the "unconditioned."

1st October, 1855, 9 o'clock, a.m.

JURISPRUDENCE.—*Examiner, T. E. Cliffe Leslie, LL.B.*

1. How do you account for the same subjects (laws of inheritance, partnership, and insolvency, for example), being discussed in both economical and juridical treatises? and how do you distinguish the questions peculiar to each science?

2. Are there any general principles applicable to define the limits of the functions of central and local government?

3. What are the most effectual provisions the laws can make to secure national subsistence and abundance?

4. What are the limits to the right of primogeniture in England, and the principal arguments for and against the right so restricted?

5. Are there any expenses attending law proceedings in general, and any expenses attending certain proceedings in the Court of Chancery in particular, which should be borne by the suitors?

6. Explain the origin and policy of the usury laws, and the considerations which led to their repeal?

7. Laws may be retrospective in their operation, although in terms referable only to future transactions.

8. "Since we assign an *invisible origin* to positive law, we must abandon every documentary proof of it," (*Savigny*). Explain the words in *italics*.

9. "The criminal law," observes Savigny, "makes earlier and greater progress than the civil law." How is this fact to be accounted for?

10. What are, according to Reddie's classification, the "primary divisions of private law"?

11. On what grounds does Bentham object to the establishment of courts of peculiar and exclusive jurisdiction?

12. State briefly the considerations which should determine the number and distribution of courts of justice in any locality.

1st October, 1855, 2 o'clock, p.m.

POLITICAL ECONOMY.—*Examiner, T. E. Cliffe Leslie, LL.B.*

1. a. What are the principal causes which have tended to raise the price of land in the present century?

b. What are the principal causes which have tended to lower the price of land in the present century?

2. The business of insurance against fire and shipwreck could not exist without the occurrence of such accidents. Upon whom do the losses occasioned by the destruction of insured property fall?

3. What are the economic advantages of recruiting by voluntary enlistment instead of by a conscription?

4. "If there were a tax on all commodities proportioned to their value, there would be a disturbance of value, some rising and some falling" (*J. S. Mill*). Explain and prove this.

5. "A tax on profits, like a tax on rent, must fall wholly on the payer. All profits being alike affected, no relief can be obtained by a change of employments." . . . "Any tax levied on the wages of skilled labour falls on those who pay it; they have no means of relieving themselves at the expense of any other class" (*J. S. Mill*). Is it true that a tax on profits or on skilled labour must fall exclusively upon those sources of income, for the reasons stated by Mr. Mill?

6. "It is obviously the same advantage to a nation to have a considerable portion of its revenue derived from crown lands as it is to have its charitable institutions supported by separate property of their own" (*Alison—History of Europe*).

a. Is it an advantage to a nation to have its public revenue derived from crown lands?
b. Is it an advantage to it to have its charitable institutions supported by separate property?

7. Explain the following phrases :—
 - a. *A high rate of exchange.*
 - b. *Backsaver bills.*
 - c. *Public deposits.*
 - d. *Dead weight annuity.*
 - e. *Increase of rest (in the Bank accounts).*
8. Deviations of the real exchange from par may arise from either of two causes.
9. Describe briefly the causes which determine the natural amount of the currency.
10. a. How were the issues of the Bank of England regulated during the suspension of cash payments?
 b. How, from 1819 until 1844?
 c. How have they been regulated since 1844?
11. State the chief objections to government loans for defraying the expenses of a war.
12. Are there any occasions on which a loan is, on either economic or purely financial grounds, preferable to a sudden increase of taxation?

26th September, 1855, 9 o'clock, a.m.

MIXED MATHEMATICS.—*Examiner, G. Johnston Stoney, A.M.*

1. Deduce from mechanical principles the general equations for the equilibrium of flexible strings.
2. State a general method of investigating the strains on the constraints of a system at rest.
3. The determination of the attraction of a thin ellipsoidal layer, bounded by similar surfaces and of uniform density, on an external particle, may be reduced to finding that of another ellipsoidal layer passing through the particle. Prove this.
4. Prove that the normal and tangential components of the accelerating forces soliciting a free particle, are respectively $\frac{v^2}{\rho}$ and $\frac{dv}{dt}$, ρ being the radius of curvature.
5. Show that the number of the equations for the motion of a particle, restricted either to a given surface or a given curve, is sufficient for the problem.
6. Explain why the proof of the general equation of vis viva requires that the time should not enter explicitly into the equations of condition of the problem.
7. Show that there are three principal axes at every point of a body.
8. Investigate the strains to which a fixed axis of rotation is subjected during the motion.
9. Give a geometrical description, by means of the central ellipsoid, of the motion of a body spinning without external forces round a fixed point.
10. Show that it is essential to the equilibrium of gases that the temperature should be constant throughout each couche de niveau.

26th September, 1855, 2 o'clock, p.m.

MIXED MATHEMATICS.—*Examiner, G. Johnston Stoney, A.M.*

1. Show that if the moon had an atmosphere, the relative displacement of a star and of the limb of the moon would be nearly twice the horizontal parallax of the star by the moon's atmosphere.
2. How are the intervals between the transits of Venus determined?
3. Give an outline of the method by which the variation of the moon may be deduced from mechanical considerations by Newton's method.
4. Interpret the terms in the expression of the tangent of the inclination of the moon's orbit—

$$s = k \sin(g\delta - \gamma) + \frac{1}{2} m k \sin \left\{ (2 - 2m - g)\delta - 2\beta + \gamma \right\}$$

5. In investigating the lunar theory by successive approximations, explain how the coefficient α , which gives the progression of the apses, is introduced, and show that the process is valid.
6. Show that the field of view of a telescope or compound microscope will be a maximum when the pupil of the eye is placed at the image of the object lens formed by the eyepiece.
7. Show that a combination of thin lenses in contact, which is achromatic for any one distance, is so for all distances; and show that this is not the case if the lenses forming the achromatic system be not in contact.
8. Prove that the condition of a planatism for a system of two lenses is $\left(\frac{\alpha'}{\beta}\right)^2 + \left(\frac{\beta}{\alpha}\right)^2 = 1$, where α' is the reciprocal of the distance of the radiant of the second lens, and β the reciprocal of the distance of the conjugate of the first lens, α and α' being the co-efficients of spherical aberration of the two lenses for those distances.
9. State the fundamental experiments on which Ampère's theory of electricity is founded; and deduce from them his expression for the action of two elements of currents on each other.
10. Given the space to be occupied by a coil; prove from Ohm's law that it would produce a maximum effect when the wire is of such a thickness that the resistance within the coil equals that without it, if the thickness of the insulating wrapper of the wire could be neglected.

1st October, 1855, 2 o'clock, a.m.

MATHEMATICS.—*Examiner, Rev. Robert Carmichael, A.M., F.T.C.D.*1. Investigate the general expression for the sum of the m^{th} powers of the roots of the equation

$$x^n - px^{n-1} + qx^{n-2} - \&c. = 0.$$

2. Investigate the formula by which the amount of an annuity left unpaid for n years, at stated compound interest, is determined.3. Hence investigate the formula by which the present value of an annuity, to be paid for n years, allowing compound interest, is determined.

4. If 12 white and 10 black balls be thrown into a bag, investigate the probability that a person will draw out first a white and then two black balls.

5. Investigate Lhuillier's formula for the spherical excess,

$$\tan \frac{1}{2} E = \sqrt{\tan \frac{1}{2} s \tan \frac{1}{2} (s-a) \tan \frac{1}{2} (s-b) \tan \frac{1}{2} (s-c)}.$$

6. If r be the radius of the circle inscribed in a spherical triangle, and ρ_1, ρ_2, ρ_3 the radii of the escribed circles, prove that

$$\tan r \tan \rho_1 \tan \rho_2 \tan \rho_3 = \sin s \sin (s-a) \sin (s-b) \sin (s-c).$$

7. If r', r'', r''' be the semidiameters of an ellipse, parallel to the sides of an inscribed triangle, prove that

$$R = \frac{r' r'' r'''}{a b},$$

where R is radius of the circle circumscribing the triangle.

8. Eliminate the arbitrary functions from the equation

$$z = \phi (ay + bx). \quad \Psi (ay - bx).$$

9. Integrate the total differential equation

$$D^2y - 4Dy + 4y = ax^2.$$

10. Integrate the partial differential equation

$$xD_x z + yD_y z - ax^2 y^2 \sqrt{z^2 - x^2}.$$

1st October, 1855, 2 o'clock, p.m.

MATHEMATICS.—*Examiner, Rev. Robert Carmichael, A.M., F.T.C.D.*

1. Show that for any geodesic line traced upon the surface of a cone

$$xD^2x + yD^2y + zD^2z = 0,$$

the origin of co-ordinates being taken at the apex.

2. Hence show that the general equation of such a geodesic, in finite terms, is

$$r^2 = (s+c)^2 + d^2,$$

c, d, being arbitrary constants; and point out the geometric interpretation of this equation.

3. Prove that the general differential equation of a surface of revolution, described round an axis passing through the origin, and making with the axes of co-ordinates angles l, m, n , is

$$\left\{ (y \cos n - z \cos m) D^2x + (x \cos l - z \cos n) D_y^2 + (x \cos m - y \cos l) D_z^2 \right\} u = 0.$$

4. Integrate the partial differential equation—

$$axD_x u + bxD_y u + cxD_z u - ku = Ax^m y^n z^p.$$

5. More generally investigate the solution of all partial differential equations of the type

$$F(xD_x, yD_y, zD_z, \&c.)u = 2Ax^m y^n z^p \dots$$

6. Integrate, by a symmetrical method, the system of simultaneous differential equations

$$\left. \begin{aligned} D_x u &= b_y y + c_z z \\ D_y u &= a_x x + c_z z \\ D_z u &= a_x x + b_y y \end{aligned} \right\}$$

7. Investigate, either by analysis or geometry, the general expression for the element of a surface in polar co-ordinates, namely—

$$ds = \sqrt{r^2 \sin^2 \theta + \sin^2 \theta (D_\theta r)^2 + (D_\phi r)^2} \cdot r d\theta d\phi.$$

8. Hence deduce the quadrature of the surface

$$r = m e^{\frac{1}{2} \cos \theta}$$

within limits given by the intersections with the given surface of the cones

$$\theta_1 = \alpha + \phi, \quad \theta_2 = \beta + \phi,$$

and the planes

$$\phi_1 = \alpha', \quad \phi_2 = \beta'.$$

26th September, 1855, 2 o'clock, p.m.

PHYSICS.—*Examiner, G. Johnstone Stoney, A.M.*

1. From what observations and experiments is it known that gravity is a molecular property of matter?

2. Describe the construction of a Nicol's prism, and explain its action.

3. Give an account, in the wave theory, of the colours of thin plates of a double refracting crystal in the polariscope.

4. (a) Describe the nature of the vibrations of air which constitute sound, and mention why we are obliged, in the wave theory of light, to suppose the vibrations to be of a different kind.

(b) Show that the crossing of the rays of light at the focus of a lens, without interference, is not inconsistent with the emissive theory.

5. Account for the iris of colours seen at the boundary of total reflection.
6. Describe some method by which the tension of the vapour of water below the freezing temperature may be determined, and explain the principles upon which it depends.
7. What is Newton's law for the cooling of a body in a vacuum, and what is Dulong and Petit's?
8. If the north pole of a powerful magnet approach the north pole of a small magnet they will first repel one another, but on coming nearer will attract. Explain this.
9. There is no electric accumulation on the inside of a large conducting shell, yet the charge may be drawn off by introducing a wire through a hole and bringing it into contact with the inside. Explain this.
10. By what experiments can it be verified that the quantity of an electric current is inversely as the resistance?
11. Enumerate the reactions which take place in a cell of Grove's battery, and point out the causes which make its constancy so much greater than that of the ordinary copper and zinc batteries.
12. If the current of a small floating coil form a loop, and if the middle of a long bar magnet be held centrally within it, show that the floating coil will be in equilibrium which is stable or unstable, according to the position of the poles of the magnet.

27th September, 1833, 2 o'clock, p.m.

CHEMISTRY.—*Examiner, John Blyth, M.D.*

1. Define chemical affinity; point out its distinction from other modifications of attractive force; state some of the circumstances which modify its action.
2. What is meant by the "hypothetical density" of a vapour? How is the specific gravity of the vapour of C calculated.

Sp. gr. of $\text{C O}_2 = 1.524$

Sp. gr. of O = 1.1056

3. Explain Berzelius's electro-chemical theory.
4. What is the distinction between atoms and equivalents?
5. What would be the relative atomic weights of O and H if the opinion of Berzelius is correct, "that simple substances in the gaseous state contain equal numbers of atoms in equal volumes?" Show that this law does not hold good with compound gases.
6. What is the ultimate reason of the law of union among gases (viz., combination by volume)? How is the combining volume of the following gases ascertained.

Specific Gravity.	Equivalent Weight.
H = 0.0693, . . .	1
O = 1.1056, . . .	8
Cl. = 2.47, . . .	35.5
N O = 1.523, . . .	22
N H ₃ = 0.589, . . .	17
C O ₂ = 1.524, . . .	22

7. What is the origin and constitution of the white crystals of the lead chamber in the manufacture of sulphuric acid?
8. Explain the process for separating the small quantity of silver contained in lead extracted from galena.
9. Explain by symbols the reactions which take place in the different stages of the process for manufacturing carbonate of soda according to Leblanc's method.
10. What is the nature of the purple of Cassius, and how is it prepared?
11. What products are obtained by condensing the vapours from a mixture of H Cl and N O₂ exposed to heat?
12. What are the reactions on blue and red litmus of solutions of common phosphate and of pyrophosphate of soda before and after precipitation by nitrate of silver? Explain the reasons for these reactions.
13. What are the quantities of the proximate constituents, and of the ultimate elements contained in 100 parts of the sulphate of lead?

N. B.: Pb = 103.8; S = 16; O = 8.

14. When oxygen combines with a metal in one proportion only to form a salifiable base, what number of atoms of metal and of oxygen is the compound assumed to contain? Explain the grounds for giving a different formula to alumina.
15. How is the atomic weight of an organic base ascertained?
16. Calculate the formula of crystallized morphia from the following data:—100 parts contain—

C = 67.33
H = 6.93
N = 4.62
O = 21.12

100.00

Atomic weight = 303.

N.B.—Crystallized morphia contains two equivalents of water of crystallization.

D

17. What are the most indispensable conditions for the process of fermentation? What is the explanation of the process offered by Liebig?

18. What is the chemical constitution of common animal fat? Explain the theory of saponification.

28th September, 1855, 9 o'clock, a.m.

ZOOLOGY.—*Examiner, Dr. Meleille.*

1. State the arguments for and against the *Lamarckian* theory of development.
2. Give an account of the *gastrovascular* system of classification, and state the objections which have been urged against it.
3. Point out the relative importance of the various systems of organs in classification.
4. Give an account of the homology of the locomotive apparatus in *Vertebrata*.
5. Give a sketch of the laws which determine the distribution of animal forms.

BOTANY.

1. Give classified lists of the axial and foliar organs of a phanerogamous plant.
2. Describe the structure and mode of growth of the stem in acrogonous plants.
3. Refer the plants on the table to their respective natural orders, and describe each of them in technical terms.
4. State the views of the late Professor Forbes regarding the mode of origin of the British Flora.

28th September, 1855, 2 o'clock, p.m.

MINERALOGY, GEOLOGY, AND PHYSICAL GEOGRAPHY.

Examiner, J. Beete Jukes, M.A., F.R.S.

1. Define the sciences mineralogy, geology, and palæontology, and show their relations to each other.
2. What do you mean by the word "cleavage" in mineralogy, and what in geology?
3. Give a special description of geological cleavage, distinguishing it from "lamination" and "foliation," and also from "joints."
4. To how many systems of crystalline forms, depending on the length and position of their axes, can all crystals be reduced?
5. Name and describe these systems.
6. Enumerate the simple minerals which most abundantly enter into the composition of rocks, distinguishing those that principally form igneous from those that form aqueous rocks.
7. Write out, in order, the subdivisions of the carboniferous system of the northern part of Ireland, as given by Dr. Griffith in his geological map, pointing out the differences there shown to exist between the carboniferous rocks of the north and those of the south of Ireland.
8. State the general argument of Lyell's *Principles of Geology*, giving any details you may recollect in support of this argument or any part of it.
9. Taking the Mediterranean and the Black Sea, the Baltic Sea and the Arctic Ocean, as part of the basin of the Atlantic, and the Indian Ocean and its dependencies as part of the basin of the Pacific, what relation do you trace between these two great basins and the position of the principal mountain chains, and the direction of the largest rivers of the world?

EXAMINATION FOR THE DEGREE OF B.A.

18th September, 1855, 9 o'clock, a.m.

LATIN.—*Examiner, Charles Parsons Reichel, B.D.*

Translate any two of the following extracts:—

TERENCE.—*ARISTOTELI.*

Aeschinus. Occidit me quidem, dum nimis sanctas septias
Student facere: in apparando consumunt diem.

Democ. Quid agitur, Aeschino? *Ae.* Ehem, pater mi, tu hic eras?

D. Tuus hercle vero et animo et natura pater:

Qui te amat plus, quam hunc oculus. Sed cur non domum

Uxorem accersis? *Ae.* Cupio: verum hoc mihi moras 'st

Tiliacina, et hymenaeum qui carent. *D.* Eho,

Via! tu hinc seni auscultare? *Ae.* Quid? *D.* Missa haec facio,

Hymenaeum, turbas, lampadas, tiliacinas:

Atque hanc in horto macedoniam jube dirui,

Quantum potest: hac transfer: nam fias domum:

Traducet et matrem et familiam omnem ad nos. *Ae.* Placet.

Pater lepidissime. *D.* Ego, jam lepidus vocor.

Fratri sodas sent pervias: turbas domum

Adducit, sumptum admittet: multa: quid mea?

Ego lepidus in eo gratiam. jube nunc iam

Dumneret ille Babylo viginti minas.

Syro, cessa ire ac facere? Syrus. Quid ego? D. Dirus.
 Tu illas ubi et tradere. Geta. Di tibi, Deum,
 Beneficiant, quoniam te video nostrae familiae
 Tam ex animo factum velle. D. Dignos arbitror.
 Quid tu ais? Ae. Sic opinor. D. Multo rectius 'ut
 Quam illum perperam hac nunc duci per viam
 Aegrotum. Ae. Nil esum vidi melius, mi pater.
 D. Sic solco. Sed ecce, Micio egreditur foras.

TERENCE.—PHORMIO.

Demipho. Nostrapte culpa facimus ut malis expediat esse:
 Dum nimium dici nos bonos studemus et benignos.
 Ita sagias ne propter casum, quod aiunt, nomen id nos erit,
 Accipere ab illo injuriam? etiam argo, ut ultro objectam:
 Ut sit qui vivat, dum aliud aliquid sagiti conficiat.
Geta. Illanissime. D. Ita nunc praemium est, qui recta prava faciunt.
G. Vorissimo. D. Ut stultissime quidem illi rem gesserimus.
G. Modo ut hoc consilio possit discendi, ut istam ducat.
D. Etiam lene dubium 'ut? *G.* Haud scio hercle, ut homo 'ut, an
 mutet autem.
D. Hom, mutet autem? *G.* Nescio: verum, si forte, dico.
D. Ita faciam, ut frater censuit, ut uxorem ejus hac adducam:
 Cum ista ut loquatur. tu Geta, ubi prae: nuntia hanc venturam.
G. Argo, ut iuratum 'ut Phaedrae: de iungio solatur:
 Provisum est, me in praesentia haec hinc abeat: quid nunc porro?
 Quid fiet? in oedum haecitas leto: versura solvis:
 Praescus quod fuerit, in diem malum abiit: plagae eroscent,
 Nisi praescipis: nunc hanc domum ibo: se Phannum edocebo,
 Ne quid voveatur Naustadam neque ejus orationem.

VIRGIL.—ÆNEID, BOOK VI.

Ecco gubernator sese Palinurus agobat
 Qui Libyco super cursa, dum sidem servat,
 Exciderat puppi medulla offusus in undis.
 Hunc ubi vix multa moestum cognovit in umbra,
 Sic prior alloquitur: Quis te, Palinure, decorem
 Eripuit nobis, medicoque sub aegore mersit?
 Dic ago. Namque mihi, fallax haud ante repositus,
 Hoc uno responso animam delusit Apollo,
 Qui fore te ponto inestumum, finesque cunctas
 Venturum Aesonice. En haec promissa fides est?
 Ille autem: Neque te Phoebe cortina fefellerit,
 Dex Anchisada, nec me domus aegore mersit:
 Namque gubernaculum, multa vi forte revulsam,
 Cui datus haerebam custos, cursusque regebam,
 Praecipitans traxi mecum. Maris aspera juro,
 Non ullum pro me tantum cepisse timorem,
 Quam tua ne, spoliant armis, excussa magistro,
 Deliceret tantis navis surgentibus undis.
 Tros Notus hibernas immensa per aequora noctes
 Vexit me violentae aqua: vix lumine quarto
 Procepi Italianum summa sublimis ab unda.
 Paullatim adnabam terras: jam tuta tenebam,
 Ni gens crudelis madida cum veste gravatum,
 Pressantemque vadis manibus capita aspera montis,
 Ferro iuvassent, praedamque ignara putasset.
 Nunc me fluctus habet, versantem in litore venti.

HORACE.—SATIRES.

Saepe stilum vertas, iterum quae digna legi sint
 Scripturus: neque te ut miretur turba labores,
 Contentus paucis lectoribus. An tua demum
 Vilibus in ludis dictari carmina malis?
 Non ego: nam satis est equitem mihi placere, ut andax,
 Contentis aliis, expleat Arbutula dixit.
 Men' moveat cimex Pantilius? aut cruciet quod
 Volliet absentem Demetrine? sed quod ineptus
 Fannius Hermogenis laedat coarctiva Tigelli?
 Plotius et Varus blaseus Virgiliusque
 Valgus et prober haec Octavio optimus atque
 Fuscus, et haec utinam Viscorum laudet uterque:
 Ambitione relegata te dicere possum
 Pollio, te Messalla tuo cum sintre: simulque
 Vos, Bibule et Servi: simul his te candido Furni:

Complures alios, doctos ego quos et amicos
 Prudens prætereo, quibus hæc, sint qualiacunque
 Arridere valim, deliturus si placeant spe
 Deterius nostra. Demetri, teque Tigelli,
 Discipularem inter jubeo plorare cathedras.
 I puer, atque meo citus hæc subscribe libello.

TACITUS.—GERMANIA.

De minoribus rebus principes consulunt, de majoribus omnes, ita tamen ut ea quoque quorum penes plebem arbitrium est, apud principes pertractentur. Cogunt, nisi quid fortuitum et subitum inciderit, certis diebus, cum aut inchoatur luna aut impletur: nam agendis rebus hoc auspiciatissimum initium credunt. Nec diem numerum, ut nos, sed noctium computant. Sic constituent, sic condicunt. Nox ducere diem videtur. Illud ex libertate vitium, quod non simul nec ut jussi conveniant, sed et alter et tertius dies convectione coentium abominatur. Ut turbæ placeat, cōcedunt armati. Silentium per sacerdotas, quibus tum et coercendi jus est, imperatur. Mox rex vel princeps prout ætas cuique, prout nobilitas, prout decus bellorum, prout faciundia est, audiuntur, auctoritate suadendi potius quam jubendi potestate. Si displicuit sententia, fremitus aspernantur: sin placuit, frangas concutiunt. Honoratissimum assensus genus est armis laudare.

TACITUS.—AGRICOLA.

Ipsi Britanni delectam ac tributa et injuncta imperii munera impigre obeunt, si injuriæ absint: hæc aegre tolerant, jam domiti ut parcant, nondum ut serviant. Igitur primus omnium Romanorum divus Julius cum exercitu Britanniam ingressus, quanquam prospera pugna terruisset incolas ac litore potius sit, potest videri ostendisse posteriora, non tradidisse. Mox bella civilia et in rem publicam versa principum arma, ac longa oblivio Britannie etiam in pace. Consilium id divus Augustus vocabat, Tiberius præceptum. Agitasse Caium Cæsarem de intranda Britannia satis constat, ni velox ingenio, mobilis paucitenta, et ingentes adversas Germanos conatus frustra fulserat. Divus Claudius auctor operis, transvectis legionibus auxiliisque, et assumpto in partem rerum Vespasiano; quod initium venturæ mox fortunæ fuit. Domitiae gentes, capis reges, et monstratus factis Vespasianus.

CICERO.—IN CATILINAM I.

Nunc ut a me, patres conscripti, quandam prope justam patriæ querimoniam detester ac deprecor, percipite quæso diligenter quæ dicam, et ea penitus animis vestris mentibusque mandate. Etenim si mecum patria, quæ mihi vita mea multo est carior, si cuncta Italia, si omnis respublica loquatur: M. Tullii, quid agis? tunc cum quem hostem esse comperisti, quem ducem belli futuram vides, quem exspectari imperatorem in castris hominum senia, auctorem sceleris, principem conjurationis, ovocatorem errorum et civium perditorum extra patris ut ab te non emissus ex urbe sed inmissus in urbem esse videatur? Nonne tunc in vincula duci, non ad mortem rapî, non summe supplicio necari impensis? Quid tandem impedit te? Mores majorum? at persæpe etiam privati in hac republica perniciosos civis morte mellarunt: an leges, quæ de civium Romanorum supplicio rogatæ sunt? at nunquam in hac urbe ii qui a republica defecerunt, civium jura tenuerunt. An invidiam posteritatis times? præclaram vero Populo Romano refers gratiam, qui te, hominem per te cognitum, nulla commendatione majorum, tam mature ad summum imperium per omnes hominum gradus extalit, si propter invidiam aut alienius periculum metum, salutem civium tuorum negligis. Sed, si quis est invidiæ motus, num est vehementius severitatis ac fortitudinis invidia quam iustitiæ et æquitatis pertimescenda? An, quem bolle vastabit Italia, vexabuntur urbes, tecta ardebant, tum te non existimas invidiæ incendio conflagaturum?

SALLUST.—JUGURTHA.

Igitur Jugurtha contra deos regum cultu quam maxime miserabili cum Cassio Romam venit: ac, tamenetsi in ipso magna vis animi erat, confirmatus ab omnibus quorum potentia aut scelere cuncta gesserat; C. Baebium tribunum plebis magna mercede parat cujus impudentia contra jus et injurias omnes manus foret. At C. Memmius, advocata concione, quanquam regi infesta plebs erat, et pars in vincula duci jubebat, pars, si socios sceleris aperiret, more majorum de hoste supplicium sumi; dignitati quam ipse magis consulens, sedare motus et animos mollire: postremo confirmare fidem publicam per sese inviolatam fore. Post, ubi silentium cepit, producto Jugurtha verba facit: Romæ Numidiæque facinora ejus memorat: scelera in patrem fratresque ostendit; quibus jurantibus quibusque ministris egerit, quanquam intellegat Populus Romanus, tamen velle manifesta magis ex illo habere: si vera aperiret, in fide et clementia populi Romani magnam spem illi sitam: sin retineat, non sociis saluti fore; scire suasque spes corrupturum. Dein, ubi Memmius dicendi suum fecit, et Jugurtha respondere jussus est, C. Baebius, tribunus plebis, quem pecunia corruptum supra diximus, regem tacere jubet: ac, tamenetsi multitudo quæ in concione aderat, vehementer accessit, terrebat cum clamore, vultu, sæpe impetu, atque aliis omnibus quæ ira fieri amat, vicit tamen impudentia. Ita populus ludibrio habitus ex concione discessit: Jugurthæ Bestiæque, et cæteris quos illa quæstio exagitabat, animi augescunt.

1. Write remarks on the passages you have translated; noticing any syntactical peculiarities, and explaining the allusion, historical or otherwise, that may occur in them.
2. Give the principal parts of the verbs *cerno*, *farcio*, *jubeo*, *liceo*, *mones*, *neco*, *necto*, *pario*, *posco*, *promis*, *prendo*, *surgō*.
3. Write out the Latin cardinals, ordinals, and distributives, from one to twenty.
4. Write down the chief defective verbs.
5. Give the names of the Roman magistracies; and state the occasions on which they are said to have been introduced, and the dates of their institution.
6. Re-translate into Latin prose:

6. Re-translate into Latin prose:
 Restrained therefore by this discontent, and because it seemed folly to take care of another man's business at his own hazard, he dispatched messengers to Bocchus to demand that he should not become an enemy to the Roman people without cause; that he had every opportunity of uniting himself with them in an alliance and friendship which would be more profitable than war: though he relied on his own strength, he ought not to change certainties for uncertainties: that every war was easily undertaken, but ended with the greatest difficulty: that the beginning and ending thereof were not in the hands of the same person; that any one, even a coward, could begin: but that it was dropped when the victorious party chose; and that, therefore, he should have regard to his own interest and that of his kingdom, and not mix up his own prosperous condition with the ruined condition of Jugurtha.

18th September, 1855, 2 o'clock, p.m.

GREEN.—Examiner, William Norbitt, A.M.

Translate any two of the following passages :—

I.—1. ILLAD, III., 203-224:

Τὴν ὁ αὐτὸς Ἀνδρέας τινεμένους ὡςτις εἶδεν
 ὡς γένουσι, ἡ μὲν ταῦτα ἐνός νεμερῆς ἐκαστος.
 ἔθεν γὰρ καὶ ἑῷ κατ' ὅλως ἐκαστος.
 οὐκ ἐστὶ ἀγένητος, οὐκ Ἀφροδίτη Μαιεύει
 τοῦς ὁ ἰγὺς ἐκείνου καὶ ἐν παρθένοις ἐκείνης,
 ἀπαρτίουσι ἄν ὅστις ἔδωκε καὶ μέλει παρὰ.
 ἀλλ' οὐδ' ἐξ ἑλπίου ἐν ἀγροῖσι καὶ ἱατρῇ,
 σπένδουσιν μὲν Μαιεύεισι ἑσπερίους ἐλπίδας ὅπως,
 ὁμοῦ δ' ἱερῶν, γαρρῶντες θεῶν Ὀδυσσεύς.
 ἀλλ' οὐδ' ἐξ ἐλπίου καὶ μέλει πῶς ἔσονται,
 ὅπως μὲν Μαιεύεισι ἐκταρῶντες ἀφ' ὅπως,
 ταῖσιν μιν, ἀλλὰ μὲν λυγρῶς ἐκαστὸς ἐλπίδας
 οὐδ' ἀπαρτίουσι, ἡ καὶ γένουσι ἑσπερίους οὐκ.
 ἀλλ' οὐδ' ἐξ ἐλπίου ἐκείνου ὁδυσσεύς
 σπένδουσιν, ἐκαστὸς ἡ ἐλπίας κατὰ χροῖας ὁμοῦς πῶς,
 σπένδουσιν ὁ δὲν ὁδὸν οὐκ ἀπαρτίουσι ἐκείνου,
 ἀλλ' ἀπαρτίουσι ἑσπερίου, ὁδὸς οὐκ ἐκείνου
 οὐκ ἐκείνου ἐκείνου καὶ τῶν ἑσπερίου ἀφ' ὅπως ὁ δὲν.
 ἀλλ' οὐδ' ἐξ ἐλπίου καὶ μέλει πῶς ἔσονται
 καὶ ἐκαστὸς ἐκείνου ἐκείνου χροῖας,
 οὐκ ἐκείνου ὁδὸς ὁδὸς ὁδὸς ὁδὸς ὁδὸς
 οὐκ ἐκείνου ὁδὸς ὁδὸς ὁδὸς ὁδὸς ὁδὸς.

2. Ильясов, Л. 45:

[illegible]

3. *ÆSCHYLUS, PROMETHEUS VINCTUS*, 226-245:

3 ὁ δὲ ἰσχυρὸς, αἰτίᾳ κατ' ἕνεκα
 δικαιῖται καὶ περὶ τὸ σάτυρον.
 ἔπειτα τάχιστα τὴν παρρησίαν ἐκ βρόχου
 κατέβηκεν, εὐθὺς ταῖσιν νόμιμα γίγναι
 ἔδωκεν ἄλλοι καὶ διστοχάζειν
 ἄρχην· βροχῶν δὲ πᾶν ταλαιπώρον λέγων
 εὖτε ἔσταιν οὐδέτις, ἄλλα δ' ἀνιστάται ρήσας
 πῶς ἔσταιν ἄλλοι φανταῖαι ἰσάν.
 καὶ ταῖσιν εὐθείᾳ ἀντιτίσκειν πλοῦν φασί.
 ἰσὺ δ' ἐκείνῃ· ἐλπίστον μιν βροχῶν
 τοῦ καὶ ἀποβλασφασθῆναι εἰς Ἄϊον μελέην.
 τοῦ καὶ ταυτοῖσι φασιν οὐκ ἀσπασμαί,
 πάσῃσιν μὲν ἀλγυνοῖσιν, εὐαρίσται δ' ἰσάν·
 θνητοὺς δ' ἐν αἵματι προσβίβοντες, ταῖσιν τοῦτο

19th September, 1833, 2 o'clock, p.m.

SPECIAL GROUP B.—ENGLISH PHILOLOGY & CRITICISM.—*Examiner, Rev. C.F. Darley, A.M.*

1. "Whenever two or more populations speaking different languages are placed along side of one another, under the same government, there is a tendency which sooner or later will, to a greater or less extent, become operative towards the establishment of uniformity of speech. No such tendency arises in the case of contiguous populations living under different governments."

Give exemplifications of this fact.

2. In what year was it ordered by Act of Parliament that all trials in the King's Courts should be conducted in English?

3. At what period, and in the Reign of what Prince, was the above Act of Parliament substantially carried into effect?

4. French, up to a late period, continued to be the language in which the public reports of law cases were usually drawn up. Approximate to the date.

5. Mr. Guest holds that there have been four systems employed at different periods to mark the quantity, or rather quality, of our English vowels. Explain these several systems, and give examples.

6. The full account of the peculiarity of the final "E," in Chaucer's works, may be comprised in five propositions. Explain these propositions at large.

7. State some of the principal peculiarities that distinguish the grammar of Chaucer's English from that of the English of the present day.

LITERATURE.

Give a running commentary on the works and genius of Addison, Swift, Bolingbroke and Defoe, regarded as prose writers; and on the works and genius of Burns, Coleridge, Southey, and Scott, as regarded as poets; and quote or indicate such passages in the works of the above-mentioned prose writers and poets, as you may conceive to be amongst the best specimens.

19th September, 1833, 9 o'clock, a.m.

MODERN LANGUAGES.—*Examiner, Professor Frings, Ph.D.*

FRENCH.—I

Translate into French :—

I received, one morning, a message from poor Goldsmith, that he was in great distress, and, as it was not in his power to come to me, begging that I would come to him as soon as possible. I sent him a guinea, and promised to come to him directly. I accordingly went as soon as I was dressed, and found that the landlady had arrested him for his rent, at which he was in a violent passion. I perceived that he had already changed my guinea, and had a bottle of Madeira and a glass before him. I put the cork into the bottle, and desired he would be calm, and began to talk to him of the means by which he might be extricated. He then told me that he had a novel ready for the press, which he produced to me. I ran through it, and saw its merit; told the landlady I should soon return; and, having gone to a bookseller, sold it for sixty pounds. I brought Goldsmith the money, and he discharged his rent. This novel was the *Vicar of Wakefield*.

Boswell's Life of Dr. Johnson.

II.

Translate :—

Nous n'envisageons guère en France la superstition que de son côté ridicule. Elle a pourtant ses racines dans le cœur de l'homme, et la philosophie elle-même, lorsqu'elle s'obstine, à n'en pas tenir compte, est superficielle et présomptueuse. La nature n'a point fait de l'homme un être isolé, destiné seulement à cultiver la terre et à la peupler, et n'ayant, avec tout ce qui n'est pas de son espèce, que les rapports arides et fixes que l'utilité l'invite à établir entre elle et lui. Une grande correspondance existe entre tous les êtres moraux et physiques. Il n'y a personne, je le pense, qui, laissant errer ses regards sur un horizon sans bornes, ou se promenant sur les rives de la mer que viennent battre les vagues, ou levant les yeux vers le firmament parsemé d'étoiles, n'ait éprouvé une sorte d'émotion qu'il lui était impossible d'analyser ou de définir.

BENJAMIN CONSTANT.

III.

Ce n'est pas la fortune qui domine le monde : on peut le demander aux Romains, qui eurent une suite continuelle de prospérité quand ils se gouvernèrent sur un certain plan et une suite non interrompue de revers lorsqu'ils se conduisirent sur un autre. Il y a des causes générales, soit morales, soit physiques, qui agissent dans chaque monarchie, l'élevaient, la maintiennent, ou la précipitent; tous les accidents sont soumis à ces causes; et si la haine d'une bataille, c'est-à-dire une cause particulière, a ruiné un état, il y avait une cause générale qui faisait que cet état devait périr par une seule bataille : en un mot l'allure principale entraîne avec elle tous les accidents particuliers.

MONTESQUIEU.

GERMAN.—I.

Translate into German :—

Germany and Italy advanced together in the same course of intellectual development and freedom until the era of the Reformation. The great Italian artists, in their paintings and sculptures, worked as truly for the liberation of the human mind as our German scholars in the revival of classical studies. Without such preparations, our Reformation would have been a mere ecclesiastical schism, having no great influence on general intellectual progress. But after the Reformation, Germany and Italy were separated in their interests; for, while the latter remained devoted to the fine arts, the former employed its best minds in philosophy. This separation was unfortunate: for, German thought, divided from the poetical and beautiful, produced only dry metaphysical systems; while, on the other side, the Italian passion for the fine arts degenerated into a frivolous amusement for *dilettanti*.

Leo's Italy.

II.

Translate :—

Es war sehr viel als die Truppen die Stadt verlassen. Im bösen Augenblick wurden die Kriegsschiffe, die man nicht fortbringen konnte, so wie auch das Zeughaus, in Brand gesetzt; eine sehr hohe Unternehmung, die erstallische Schreibrücken hatte. Der Kaiser Eberhard Schick, der schon im letzten russisch-schwedischen Kriege große Beweise von menschlichen Kenntnissen und Aufopferung gezeigt hatte, erhielt diesen schmerzlichen Auftrag, wegen ihm ließ eine Schlachtschlacht mit sehr schwerem Verlust gegeben werden, drei englische und drei spanische. Mit diesen fuhr er nach dem Haag, das er von vertriebenen Truppen ganz wohl befestigt sah, allein die sehr zahlreichen französischen Schiffsbesatzer waren hier bereits im Tross; sie hatten die letzte Fährte abgenommen und die vertriebenen aufgefunden. Schick war zu schwach, diesen Tross zu bekämpfen zu können; überdies war seine Zeit sehr kostbar; er dachte daher noch an die Befestigung seiner Besatzung.

V. ARCHENHOLE.

III.

Der alte nahm ihn sehr in Zorn und der Herr, schickte sie aus, und sagte sie hin.—Hör! Ich erlaube dir: es wird mir von Tag zu Tag immer ärgerlicher, daß ich diese Menschen von so willkürlichen Kapfen und von so engen Grenzen zum Leben haben muß. Diese Menschen, der sie schon seit, sein Vergnügen, der im Geist ein Dämon nach dem anderen, auch oft wohl demütigste, verliert, der nur noch gehen wie in die finstere Nacht gestellt hat, und der, wenn er eine großmüthige Handlung thun sollte, vielleicht keine Thaten ihrer Natur:—diese Menschen, der erlich sehr leicht, weil seine Besätze ihn sehr wenig fürchtet, mit der doch immer ängstlich hat, zu sehen, zu sehen, den Gerechtigkeit zu machen, kommt mit Stillsitzen zu tragen.—Ich muß wohl nicht Unrecht haben, sehr er auch einigen Willkürlichen hat; denn du kennst mir nicht anders.

ENGEL'S Lorenz Stark.

ITALIAN.—I.

Translate into Italian :—

As soon as the lady had ordered coffee, fruit, and cakes, for the refreshment of her guests, she retired to her apartment to peruse the letter which explained the motive of their visit, and she was not a little surprised at finding that the father of the young ladies had accepted the post of governor to one of the East India islands; and that, not knowing whether the situation would be advantageous for young women, he had resolved to leave his daughters under the care of their aunt for some time at least. This intelligence both astonished and pained the old dame, who began to apprehend that the accounts she had heard of her brother-in-law's extravagance, since the death of his amiable wife, were but too well founded, and imagined that he had expatriated himself in order to retrieve a fortune which he could not have lost but in gambling.

II.

Translate :—

Voi dovete sapere che in Parigi fu già un gentiluomo, il quale per povertà divenuto era mercante; ed eragli al bene avvenuto della mercantanzia, che egli n'era fatto ricchissimo. E avea della sua Donna un figliuol, senza più, il quale egli aveva nominato Lodovico. E perchè, egli alla nobiltà del padre, e non alla mercantanzia, si trasse, non l'aveva il padre voluto mettere ad alcun fondaco, ma l'aveva messo ad esse con altri gentiluomini al servizio del Re di Francia; lì dove egli assai di br' costumi e di buone cose aveva appreso. E quivi dimorando, avvenne che certi cavalieri i quali tornati erano dal Sepolcro, sopravvenendo a un ragionamento di giovani, nel quale Lodovico era, e udendogli fra sé ragionare delle belle donne di Francia, e d'Inghilterra e d'altre parti del mondo, cominciò l'un di loro a dir che per certo di questo mondo egli aveva cercato e di queste donne veduto aveva mai, una simileggiante alla moglie d'Egano de' Galluzzi di Bologna, Madonna Beatrice chiamata, veduta non avea di bellezza.

Boccaccio.

III.

Necessaria è talvolta la guerra, ciò è ben vero; ma è gran vergogna dell' uman genere, che sia inevitabile in certi casi. Voi, o Regi, ah non dite, doversi la guerra desiderare per acquistar gloria; poichè non esiste vera gloria in imprese opposte ai sentimenti di umanità. Chiunque preferisce a questi la propria fama è un mostro di orgoglio, e non uomo: falsa sarà la gloria, che potrà acquistarsi; imperocchè la vera retrovasi soltanto nella moderazione, e nella bontà di cuore. Potrà eziandio essere adulato per contentare la di lui folle

vanità; ma quando vorrassi parlar sinceramente, si dirà sempre in segreto, aver lui meritata tanto meno la gloria, quanto più l'ha bramata con ingiusto appetito: non devono gli uomini rispettarlo, poichè egli gli ha stimati sì poco da prodigare il lor sangue per brutale ambizione.

BUONAJUTI.

20th September, 1855, 9 o'clock, a.m.

MATHEMATICS.—*Examiner, Rev. Robert Carnichael, A.M., F.T.C.D.*

1. Multiply 3.076 by .007, and divide 4.732 by .04; in each case explaining the process employed by the aid of vulgar fractions.
2. Add together $2\frac{1}{2}$, $3\frac{1}{3}$, $4\frac{1}{4}$.
3. Find the greatest common measure of 153741 and 987.
4. Extract the square root of 287296.
5. An income of £1,500 per annum is derived from the investment of £47,125 in English 3 per cents.; calculate the price of stock at the time of investment.
6. Calculate the present worth of a bill for £1,500, drawn 18th June, at four months; discounted 1st September, at 3 per cent.
7. Given the equation

$$\frac{3x+1}{7} + \frac{8x+5}{3} = x+2$$

find the value of x .

8. Find the values of x and y from $3x-8y=19$, $2x-9y=9$.
9. Solve the quadratic $x^2-12x+35=1$.
10. (a) Prove that triangles on the same base and between the same parallels are equal.
(b) Hence from any point in the base of a triangle draw a line which will bisect the triangle.
11. (a) Prove that the sum of the squares of the sides of a parallelogram is equal to the sum of the squares of its diagonals.
(b) Investigate the more general theorem for any quadrilateral.
12. On a given right line describe a segment of a circle which shall contain an angle equal to a given one.
13. In a given circle inscribe a regular pentagon.
14. The logarithm of 35627 being 4.5517793, find the logarithm of 35.627.
15. Investigate the formula—

$$\sin. \frac{1}{2} A = \sqrt{\frac{(s-b)(s-c)}{bc}}$$

16. Calculate the value of $\tan. 60^\circ$ to three places of decimals.

20th September, 1855, 2 o'clock, p.m.

LOGIC AND METAPHYSICS.—*Examiner, Rev. James Mc Cook, LL.D.*

I.—LOGIC.

Answer three (or four) questions from each of the two following groups:—

GROUP FIRST.

1. What is the nature of abstraction and generalization? How are they related, and wherein do they differ? How do they stand related to denomination or the use of signs, and especially of words? In answering these questions, you are at liberty to discuss the views which have been entertained by eminent philosophers.
2. Give a philosophical account of the nature of logical division, showing whether it proceeds upon the extension or comprehension (intension) of a notion. Give the rules of division.
3. What is the dictum *de omni et nullo*? What is the precise value set upon it by Archbishop Whately? What by Mr. J. S. Mill? Can the mind reason from particulars to particulars without the use of a major premiss or universal proposition?
4. On what principle does the division of syllogism according to figures proceed? Is it a mere useless subtlety? What is the nature of the second figure? When do arguments naturally fall into this figure? Why must the conclusion in this figure be negative?
5. It is argued that the Christian religion cannot come from God because it is not universal; and it is replied that many of the blessings which come from God, such as health, are not universal. Put the argument and the reply into the syllogistic form, indicate the moods and figures, and if either of the syllogisms is not in the first figure, reduce it to that figure.
6. Examine the following logically:—
a. The worship of false gods is a sin; every sin ought to be punished; and as the magistrate is appointed to punish sin, so he ought to punish the worship of false gods.
b. The study of formal logic would be useful, provided men could not reason without the syllogism; but as God "has given them a mind that can reason without being instructed in the methods of syllogizing," we may conclude that the Aristotelian logic is useless. The same may be said of the logic of Bacon, inasmuch as men proceeded by induction before Lord Bacon lived.

GROUP SECOND.

1. What is the account given by Bacon of the empirical and rational modes of inquiry, and of his own method as distinguished from these?
2. What are the various meanings of the word "induction?" What is meant by induction in the logic of Bacon? In what relation does induction stand to deduction? In what sciences is induction of most value? In what sciences deduction? When do inductive sciences become deductive.
3. What are the canons of induction proposed by living writers? Enunciate the canon of the method of difference, and give an illustration of it.
4. What are the various meanings of the word "analogy?" What is the difference between an argument drawn from mere analogy (such as that in behalf of the plurality of worlds), and an argument drawn from a scientific induction (as, for example, from the law of gravitation)?
5. What is the nature of final cause? In answering this question, you are invited to notice and criticise the views of Aristotle, Bacon, and Descartes, and say what proofs modern physiological research furnishes in behalf of final cause.

II.—METAPHYSICS.

Answer three (or four) questions from each of the two following groups:—

GROUP FIRST.

1. What is the nature of sensation? What is the nature of perception? Can they be distinguished from one another, or how do they stand related to each other?
2. Give some account of the retentive and reproductive powers of the mind, and especially of the memory; and say how the memory is connected with, and dependent upon, the laws of association, the common classifications of which are to be mentioned.
3. Explain the various meanings in classical English and in philosophy of the word "conception," and give a psychological account of the different mental phenomena which have been designated by that phrase.
4. In what different senses has the word "reason" been employed? What is meant by reason when it is distinguished from the understanding? Can this distinction be psychologically and philosophically carried out?
5. Give your view of conscience considered as a mental power or process, and interpose criticisms upon the opinions which have been entertained on this subject by some of the most eminent of modern philosophers.
6. Give some account of the peculiarities of the feelings or emotions, and say how they stand related to the other powers of the mind, and what you regard as a good, or as the preferable, classification of them.

GROUP SECOND.

1. What famous hypotheses were devised in the second half of the seventeenth century to account for the mutual operation of mind and body? Have you any criticisms to offer upon them? Has modern psychological or physiological research been able to clear up, or throw any light upon, the connexion between mind and body?
 2. State what appear to you to be the precise views of Descartes and Locke as to innate ideas.
 3. Locke calls in intuition in the fourth book of his Essay; what office does he seem to ascribe to it? Is his doctrine of intuition consistent with his doctrine as to innate ideas?
 4. Locke derives all our ideas from sensation and reflexion. Mention the ideas which can not, according to opponents of Locke, be derived from these sources exclusively. Single out some one of these, and comment upon it, with reasons.
 5. Give a historical and critical account of the views which have been entertained by modern philosophers as to the nature and genesis of the ideas of space and time; and, in doing so, give your own opinion with reasons, and say whether you look upon space and time as having an objective existence.
 6. Can every thing be proven? If not, what are we entitled, in philosophical discussion, to assume without proof, and under what conditions to assume it? State the views on this subject of the school of Reid.
- N.B.—In quoting, or referring to, any author, you are expected to name the treatise, and indicate, if not the precise year, at least the age in which it was written.

21st September, 1855, 9 o'clock, a.m.

CHEMISTRY.—*Examiner, John Blyth, M.D.*

1. Explain the law of Mariotte, and state under what conditions it no longer holds good.
Convert $+104^{\circ}$ and -40° of Fahrenheit into the corresponding numbers on the scales of Reaumur and Celsius.
3. From the following data calculate the specific gravity of a substance soluble in water, but insoluble in oil of turpentine.

Weight in air	=	200
Weight in oil of turpentine	=	91
Sp. gr. of oil of turpentine	=	0.865

4. Explain shortly the general laws regulating chemical combination.
5. Give in symbols the mode of preparing chlorine by which the whole quantity is obtained in a gaseous form: state its general properties.
6. How is nitrogen prepared from ammonia? What precautions are required, and what product is apt to be formed in the process?
7. Describe the mode of preparation and the properties of the compounds of P and H.
8. Give in equivalents and in volumes the constituents of water, and explain the mode of determining its composition analytically and synthetically.
9. What is a salt? Give examples in symbols of haloid, sulphur, and oxy-salts.
10. What is meant by combination by volume? Illustrate by examples.
11. What is the usual classification of the metals? State the relative solubility in water of the oxides and sulphides of the different classes, and mention the properties of the sulphides by which metallic salts can be separated into groups in analysis.
12. Separate into different analytical groups by general re-agents the following metals—potassium, barium, strontium, chromium, zinc, silver, and cadmium. Give the best special re-agent for each.
13. Give the best means for detecting in solution, nitric, phosphoric, chloric, and hydriodic acids.
14. Give in symbols the composition of the oxygen compounds of manganese, and state the progressive and ultimate effect produced on each by continued exposure in an open crucible to a strong heat.
15. Explain the theory of the process for extracting lead from galena.
16. Explain shortly the process for estimating C and H in organic substances containing N and S. State the precautions to be taken in conducting the analysis.
17. Give the formulae of alcohol and aldehyde as hydrated oxides of compound radicals; describe the mode of preparation and the properties of the latter.
18. Explain the term "homologous series;" give examples from the alcohols and their derivatives, and state the most characteristic features of such series.
19. How is liquid hydrocyanic acid prepared?
20. Give the mode of preparation, and the properties of chloroform.

21st September, 1855, 2 o'clock, p.m.

NATURAL PHILOSOPHY.—*Examiner, G. Johnstone Stoney, A.M.*

1. A lever, 18 inches long, has a pivot through its centre, and weights of 5 and 6 lbs. are hung from its ends, where must an additional weight of 6 lbs. be hung to produce equilibrium?
2. Explain how wheels under a carriage reduce the work to be done in overcoming friction.
3. a. What is the velocity of a body which has fallen from rest through a vacuum for ten seconds?
b. Through what distance has it in that time fallen?
4. The moon is more powerfully attracted by the sun than by the earth. Explain why she does not on this account part company with the earth.
5. The solar day is a little longer than the sidereal. Why? and, how may the difference be calculated?
6. If $\frac{1}{2}$ of a vessel be immersed when floating on sulphuric acid of sp. g. 1.8, and $\frac{2}{3}$ when floating on weak nitric acid, determine the sp. g. of the latter.
7. If the diameter of the piston of a hydraulic press be 10 inches, and that of the plunger of its pump $\frac{1}{2}$ inch, and the pump-handle a lever of 5 to 1, what pressure can a man produce with it who can work with a force of 120 lbs. on the pump-handle.
8. If the mercury in a barometer stand at 29.8, when, if the vacuum were perfect, it should stand at 30, what is the density of the air above the mercury?
9. Explain why the surface of shallow water is more readily frozen than that of deeper.
10. Show that an object viewed through a Galilean telescope will be seen erect, but inverted if viewed through a common astronomical telescope.
11. Describe some experiments which establish a difference between positive and negative electricities.
12. What are the chemical reactions in a voltaic cell of copper and zinc excited by water acidulated with sulphuric acid?

22nd September, 1855, 9 o'clock, a.m.

ZOOLOGY.—*Examiner, Dr. McNeill.*

1. Enumerate the animal tissues; mention the leading physical and vital properties of each, and describe the microscopic structure of bone and muscle.
2. State the mode of circulation in *Fishes*, and point out the manner in which it may be converted into that which exists in *Reptiles*.
3. Give a tabular view of the classification of the animal kingdom, the orders included; and state the diagnostic characters of the sub-kingdoms or types.
4. Mention the characteristics of the different sub-types or classes of *Mollusca*, and give an example of each.

BOTANY.

1. Describe the structure of the vegetable cell; give the chemical composition of its principal constituents, and state the various modes of cell-multiplication.
2. Describe the mode of growth of the stem in *Dicotyledons* and *Monocotyledons*; also contrast the structure and mode of development of the woody bundle in each.
3. Give a sketch of the morphological relations of the different organs of a flowering plant.
4. Give a tabular view of the classes and sub-classes of the vegetable kingdom, according to the natural system, with their diagnostic characters.
5. Refer the plants on the table to their respective *Linnæan* classes and orders.

22nd September, 1835, 2 o'clock, p.m.

PHYSICAL GEOGRAPHY.—*Examiner, J. Deane Jukes, M.A., F.R.S.*

1. Give the meaning of the terms "watershed," "contour line," "longitudinal and lateral valley," "snow line."
2. The land is for the most part divided into basins of drainage, which discharge their superfluous waters into the ocean. Mention those basins of drainage which do not discharge their waters into the ocean but into inland seas and salt lakes, and state the levels of the water in these lakes compared with that of the sea.
3. Why should these lakes be invariably salt, while lakes having an outlet to the ocean are fresh?
4. Give a brief account and explanation of the phenomena of "trade winds" and "monsoons."
5. Mention some of the principal mountain ranges of the world, their general direction, and that of the prevailing winds which traverse them either wholly or in part.
6. Give any instance or instances that occur to you of the climate of any large country or countries being influenced by, or depending on, this relation of mountain ranges and prevailing winds.
7. Describe the general structure of a volcanic mountain and the ordinary phenomena of volcanic action, giving any details of extraordinary eruptions that occur to you.
8. Mention any instances of a change having taken place, during historic times, in the relative level of land and sea in any part of the globe.
9. Give a brief description of a glacier and its "moraines."
10. Give a brief sketch of the physical geography of Ireland, mentioning—
(a) The principal groups of mountains, with the heights of their summits above the sea—
(b) The principal basins of drainage, with the name of the main, or arterial, river, and the place of its embouchure—
(c) The peculiarities in the climate of Ireland, and the cause or causes of those peculiarities.

24th September, 1835, 9 o'clock, a.m.

JURISPRUDENCE.—*Examiner, T. E. Cliffe Leslie, LL.B.*

1. How do you distinguish the laws of which Jurisprudence treats from those investigated by Political Economy.
2. Define public and private law, and explain the relation between them.
3. Explain the portions of the following passage printed in Italics:—"Such unquestionably ought to be the two *grand objects* both of the *historical* and *analytical schools of law*, and the *difference* between them will in reality be found to consist". . . —(*Inquiries in the Science of Law*, 2nd ed., p. 59).
4. "It has been justly observed that the writings of Mr. Bentham form, if not altogether a new, at least a very important era in the history of legal science," (*Inquiries, &c.*, p. 135); what were the principal services rendered to legal science by those writings?
5. "The distinction of law into written and unwritten, or more correctly into *statutory* and *common*, has a real foundation in nature, and flows from the different sources in which they originate," (*Inquiries, &c.*, p. 137); define the terms printed in Italics, and explain briefly the foundation of the distinction as maintained by Roddick, and the nature of the objections to it urged by Bentham.
6. Explain the nature of the distinction which exists in the English legal system between law and equity.
7. "We are gradually approaching the crisis of a necessary reformation, when our laws, like those of Rome, must be cast into the crucible. It would be a disgrace to the nineteenth century if England could not find her *Tribeonian*," (*Hallam's History of the Middle Ages*); what species of law reform is here referred to, and what would be its chief advantages?
8. How did Lord Bacon propose to effect such a reform?
9. What is meant by *ex post facto* legislation, and on what grounds has the phrase been applied to the unwritten law of England?
10. What institutions retarded the progress of agriculture throughout Europe after the fall of the Roman Empire, according to Adam Smith?
11. It is, according to Adam Smith, a mistake to imagine that the territorial jurisdictions of the ancient proprietors of land took their origin from the feudal law?
12. How do you account for the origin of the difference of the laws of succession to real and personal property?

24th September, 1855, 9 o'clock, a.m.

POLITICAL ECONOMY.—*Examiner, T. E. Cliffe Leslie, LL.B.*

1. "In the price of corn, one part pays the rent of the landlord, another pays the wages of the labourers, and the third pays the profit of the farmer;" (*Wealth of Nations*, Book i., chap. 6); point out and prove the error in this passage.
2. "The price of labour frequently rises in cheap years. The wages of both servants and journeymen frequently sink in dear years," (*Wealth of Nations*, Book i., chap. 8); how are these facts to be explained, and what economic fallacy do they disprove?
3. "The inequalities of wages and profit in different employments arise partly from certain circumstances in the employments themselves, and partly from the policy of Europe," (*Wealth of Nations*, Book i., chap. 10); explain this passage briefly.
4. "The proposition that in agriculture additional labour generally produces a less proportionate result is subject to material exceptions," (*W. R. Senior*); prove this proposition, and give examples of the exceptions.
5. What is the immediate effect of an increase of cultivation upon rent and tithes, respectively?
6. "The average and ordinary rates of profit in the different employments of stock are more nearly on a level than the wages of different sorts of labour," (*Wealth of Nations*, Book i., chap. 10); in what sense is this true, and in what sense erroneous?
7. "The revenue which consists of profit will, in the progress of improvement, bear a constantly increasing proportion to that which consists of wages;" what reason does Mr. Senior assign for this conclusion?
8. What are Adam Smith's four maxims with regard to taxes in general?
9. Explain the following phrases:—"direct and indirect taxation;" "excise duties;" "3 per cent. consols;" "unfunded debt."
10. What is meant by "a favourable balance of trade," and why called "favourable?"
11. What qualities render the precious metals the fittest of all commodities to serve as money?
12. What are the causes of depreciation in the case of a metallic and of a paper currency, respectively?

A.B. EXAMINATION FOR HONORS.

20th September, 1855, 9 o'clock, a.m.

GREEK.—*Examiner, William Nesbitt, A.M.*

I. Translate HERODOTUS, I., 185.

A. 1. Ἡ δὲ δὴ δεύτερον γεννημένη ταύτης βασιλεια, τῇ οὐνομα ἦν Νίκυρις, οἷον δὲ συνειρημένη γενομένη τῆς πρώτης ἀρξίας τοῦτο μὲν νομισέοντα ἐλπίστο τὰ ἐγὼ ἀπηγγέσθαι, ταῦτο δὲ τὴν Μήδων ἰρῆσα ἀρχὴν μεγάλῃν τε καὶ οὐκ ἀγρομίζουσαν, ἀλλ' ἄλλα τε ἀραρημένα ἅπτα αὐτοῖσι, ἐν δὲ δὴ καὶ τὴν Νίκην, προσβυλάζοντα ὅσα ἐδύνατο μάχιστα. πρῶτα μὲν τὴν Εὐφρότην ποταμὸν μένουσιν πρότερον ἰδόν, ἐς σφί διὰ τῆς πόλεως μέσης βίει, τοῖσιν ἀνωθεν διέρχεται ἀρξίσα οὐκ ἐπὶ τι ποιεῖσαι σπουδὴν, ὥστε δὴ τῆς ἐς τὴν τὴν καμῆν τὴν ἐν τῇ Ἀσσιρῇ ἀπικνεύεται βίον. σφὶ δὲ σὺν οὐνομά ἐστι, ἐς τὴν ἀπικνεύεται ὁ Εὐφρότης, Ἀρδύρα. αὐτὴ γὰρ οὐκ ἀρμίζονται ἀπὸ τῆς τοῦ βασιλέως ἐς Βαβυλῶνα, κατακλίνοντες ἐς τὴν Εὐφρότην ποταμὸν τῆς τε ἐς τὴν αὐτὴν ταύτην κώμην παραγίνονται καὶ ἐν τρισὶ ἡμέραις. τοῦτο μὲν δὴ τοιοῦτο ποιεῖται, χῶμα δὲ παρὶχως παρ' ἑαίρων τοῦ ποταμοῦ τὸ χεῖλος ἄξιον θυμώσεως, μέγιστος καὶ ὅλος ὅσων τι ἐστὶ. κατόπιν δὲ πολλὰ Βαβυλῶνος ἄρσας ἔλαττον λίαν, ἄλλων τι παρακλίνοντα ἀπὸ τοῦ ποταμοῦ, βάθος μὲν ἐς τὸ ἕως αὐτὸν ὄρεσσοντα, εὖρος δὲ τὸ περίμετρον αὐτοῦ πενταεὶς εἶναι τε καὶ τετρακοσίαν σταδίων τὴν δὲ ὀρυζομένην χεῖρ ἐς ταῦτα τοῦ ἀργύματος ἀναείρουσιν παρὰ τὰ χεῖλα τοῦ ποταμοῦ παρακλίνοντα. ἐπεὶ τε δὲ οὐκ ἄρσας, λίθους ἀγαγόντες ἀρξίσα οὐκ ἐπὶ αὐτὴν ἔλασαν ἐπὶ δὲ ἀμύδιστα ταῦτα τὴν τε ποταμὸν σπουδὴν καὶ τὸ ἔργον πᾶν ἔλασαν, ὥς δὲ ποταμὸς βραδύτερος εἴη παρὰ καμῆς πολλὰς ἀγρόμενος, καὶ οἱ πλοῖα εἰσι σπουδὴν ἐς τὴν Βαβυλῶνα, ἔτε τε τὴν πλοῖα ἐκδύναται περὶ τοῦ τῆς λίανης μακρῆ. κατὰ ταῦτα δὲ ἐργάζοντο τῆς χώρας τῇ αὐτῇ ἐς Βαβυλῶνα ἔλασαν καὶ τὸ οὐνομα σφὶ ἐς Μήδων δόξ, ἵνα μὴ ἐκμυρομένηται οἱ Μῆδοι ἐκμυρομένηται αὐτῆς τὰ πρήγματα.

(a) How does Bith defend the reading κατακλίνοντες ἐς τὴν Εὐφρότην?

(b) What is the primitive meaning of the word ἔλασαν?

2. Ἐπὶ δὲ Ἀθηναῖς, παρ' ἡμῶν γὰρ παρὶ τοῦ λόγου ἀπικνεύεται πολλὰς καὶ σφίσι εἰσεσεν τῆς σφὶ καὶ πλάτης, ὥς φιλοσοφίαν γὰρ πολλὰν θεωρεῖται εἰσεσεν ἐκτελέθουσιν—κ. τ. λ.

The appearance of the seven wise men of Greece forms an epoch in Grecian literary history? What was the nature of their wisdom?

3. εἰς δὲ πάντας Ἴωνας, εἰσι ἀπ' Ἀθηναίων γένεσθαι καὶ Ἀσσιρῶνα ὁνομασθαι ἀρξίσα.

What is the derivation of the word Ἀσσιρῶνα? Give a brief account of this Ionian festival.

4. Ἀρσας, πρῶτα τὸ ἄν σοι προσβῶν μηδὲν παρακλίνον, μηδὲ ἐπὶ τε παραβόλῃ καὶ ἄλλους ἐλάμενος ἐξ ἐσθλῶν ἐκτὸς περιτρίβει.

Translate. Explain the metaphor involved in the expression μὴ ἐκτὸς περιτρίβει.

6. καὶ ἐπὶ ταύτῃ τῇ πύρρῃ ἄλλος πόργος ἐπιβέβηκε καὶ ἑτερος μῦθος ἐπὶ ταύτῃ.

What is the meaning of *μῦθος* in this sentence? Cite a parallel from the first book of Herodotus.

6. Explain the following constructions:—

(a) *καταβαίνει λόγος.* (β) *τὴν πρότερον εἶποι.* (γ) *ἀσπίδι δὲ διακὸν εἴκοιτο, μὴ οὐ λαβεῖν αὐτά.*

(δ) *ἐνταῦθα δὲ ἄρματα ἀντὶ ἐκαστῆς ἐνταῖα.* (ε) *ἄλλο δὲ τι ἐκτελέσειεν εἴνεστι γενέσθαι.*

7. What is the dialect of Herodotus? Mention some of the anomalies which it presents, as exhibited in the best MSS.

B. 1. How does the method of Herodotus differ from that of his predecessors, the logographers?

2. What Greek writer first attempted a systematic chronology? What was the basis of his system, and how far did he attain precision, if we accept the testimony of Thucydides?

3. What principle of discrimination has Herodotus followed in testing the merit of mythical stories?

4. How has he modified the mythological mechanism of early prose history?

5. Herodotus has been characterized by an ancient critic as Ὀρμηκώτατος—Ὀρμὴν ζηλωτής; justify this criticism by a reference to his writings.

6. State Herodotus's theory of the providential government of the world.

7. The manner in which it is worked out in detail is highly prejudicial to the authenticity of his narrative: a remarkable instance of this occurs in the first book?

8. Contrast Herodotus's conception of history with that of Thucydides.

II. Translate THUCYDIDES, I., 20, 21, 22.

A. 1. Τὰ μὲν οὖν παλαιὰ τοιαῦτα εἶπον, χαλεπὰ οὖτα παντὶ ἔξῃς ταχυταίῃ πιστεύουσι. αἱ γὰρ ἀνθρώποι τὰς ἀκούσας τῶν πραγμάτων ἀκούουσιν, καὶ ἢν ἐπιχόρῃα σφίσιν ᾖ, ἱσχυρὰ ἀβασανίστως παρ' ἁλλήλους δέχονται. . . . οὕτως ἀπολαίματος τοῖς πολλοῖς ἡ ζήτησις τῆς ἀληθείας, καὶ ἐπὶ τῇ ἐνοίμῃ μᾶλλον πρότερονται, ἐκ δὲ τῶν εἰρημένων τεκμηρίων ὅμως τοιαῦτα ἂν τις νομίζαν μάλιστα ἢ διὰ τὸν οὐκ ἡμαρτάνει, καὶ οὐτε ὡς ποιεῖται ἡμῖν κατὰ τὴν αἰσθάνειαν ἐπὶ τὸ μᾶλλον κοσμοῦντες μᾶλλον πιστεύουσιν, οὐτε ὡς λογιζόμενοι ἐννοοῦσιν ἐπὶ τὸ προσεγγυώτερον τῇ ἀρεσκείῃ ἢ ἀληθείᾳ, οὐτα ἀνέχονται καὶ τὰ πολλὰ ὑπὸ χρόνῳ αὐτῶν ἀπίστως ἐπὶ τὸ μυθώδες ἐκτελεσθέντα, εἰρησθαι δὲ ἡγουμένους ἐκ τῶν ἐκτελεσθέντων σημείων ὡς παλαιὰ εἶναι ἀποκρίνωσιν. καὶ ὁ πόλεμος οὕτως, καίπερ τῶν ἀνθρώπων ἐν ᾧ μὲν ἂν πολεμῶσι τὸν πόλεμον οὐκ ἰσχυρὸν ἐκτελεσθῆναι, ταυταμένους δὲ τὰ ἀρχαῖα μᾶλλον θαυμάζουσιν, ὥς' αὐτῶν τῶν ἔργων συνεσθῆναι δηλώσει ὅμως μείζων γεγεννημένος αὐτῶν. καὶ οὐ μὲν λόγῳ εἶπον ἔπειτα ἢ μὴλλοντες πολεμήσαντες ἢ ἐν αὐτῇ ᾗδ' ὄντες, χαλεπὸν τὴν ἀρεσκείαν ὡς τῶν λεχθέντων διασημαίνεσθαι ᾗν, ἡμεῖς τε ἂν αὐτοὺς ἤκουσα ἐπὶ ταῖς ἀλλοθὲν τοῖς ἐπὶ ἀπαγγέλλουσιν' ὡς δ' ἂν εἴδομεν ἡμεῖς ἑαυτοὺς περὶ τῶν αἰὲ παρόντων τὰ εἰδέντα μέλυσ' εἰδέναι, ἐχόμενη δὲ ἐγγύστα τῆς ἡμετέρας γνώμης τῶν ἀληθῶς λεχθέντων, οὕτως εἰρηται. τὰ δ' ἔργα τῶν προχθέντων ἐν τῇ παλὴμ οὐκ ἐν τῶν παραινχόντων πινθαμένους ὕψιστον γράφειν, οὐδ' ὡς ἡμεῖς εἴδομεν, ἀλλ' αἷς τε αὐτοῖς παρῆν, καὶ παρὰ τῶν ἄλλων ὅσον δυνατὸν ἀμφιβῆναι περὶ λόγου ἐκτελεσθέντα. ἐπεὶ οὖν τὸ ἐκτελεσθῆναι, ὡς οἱ παρόντες τοῖς ἔργοις ἐκαστοῖς οὐ ταῦτα περὶ τῶν αὐτῶν ἔλεγον, ἀλλ' ὡς ἑαυτοὺς τὸς ἀντίαις ἢ μνήμης ἔχον. καὶ ἐκ μὲν ἀρεσκείας ἴσως τὸ μὴ μυθώδες αὐτῶν ἀπερλεστέρας φατέιναι' ὡς δὲ βουλήσονται τῶν τε γενομένων τὸ σφίσι συνεσθῆναι καὶ τῶν μιλάντων ποτὶ αἴθερ κατὰ τὸ ἀνθρώπιον τοσούτων καὶ παρατηρήσιων ἵστασθαι, ἀρτίλῃα κρῖναι διὰ ἀρεσκείας ἔξει. καὶ μὰ τὴν ἐκ αἰὲ μᾶλλον ἢ ἀγνώμενα ἐκ τὸ παραχρημα δεῖναι ἐνέγκειται.

(a) Cite a parallel to the use of *ἀπίστως* in the above extract from the first book of Thucydides.

(b) The last sentence has been much misunderstood: what is its true explanation?

2. ἐπὶ δὲ τοῖς μὲν σώμασιν ἀλλοτριωμένους ὑπὲρ τῆς πόλεως χρεῖσται, τῇ γνώμῃ δὲ αἰσινούσας ἐκ τὸ πρῶτον τι ἐπὶ αὐτῇ.

Illustrate the turn of thought in this sentence by any parallels which you may have met in the course of your reading.

3. Write brief notes upon any peculiarities of construction which you observe in the following sentences:—

(a) ἐν τοῖς πρώτοις δὲ Ἀθηναῖοι τὴν σφῆρην καταβέβηκε.

(β) ἐνοίμα δὲ εἶναι καὶ ὅστε ἀμφοτέρους μένειν κατὰ χώραν.

(γ) ἵνα μὴ δυοῖν φθῇσι ἀμάρτυροι.

(δ) καὶ ἐγγυώμεθα αἱ μὴ μετὰ εὐκλείας δεῖξαι δὲ μᾶλλον ἀμάρτυρα τῇ πρότερον ἀπραγμοσύνῃ ἐνστάται ταλμῶμεν.

(ε) καὶ ἡ πόλις αὐτῶν ἄμα, αἰταρὰς θέσιν καμῖση, παρέχεα αὐτοὺς διασπῆρας ἂν βλέπτοντοί τιςας μᾶλλον ἢ κατὰ ἐνδοχῆας γίγνεσθαι.

(f) τῶν δὲ Ἀθηναίων ἵνυχι γὰρ πρᾶξις πρότερον ἐν τῇ Λακεδαιμονίᾳ περὶ ἄλλων παροῦσα καὶ ὡς βέβαιον τῶν λόγων εἴδομεν αὐτοῖς παρρησίᾳ ἐκ τοῦ Λακεδαιμονίου εἶναι τῶν μὲν ἐγκλημάτων πῶς μετὰ ἀπολογησόμενοις ἂν αἱ πόλεις ἐκτελέσαντες κ. τ. λ.

(g) οἵπερ δὲ καὶ τῶν ἀνελπιστούντων τὸ πλεον ἐκ ἀμφοτέρων τῆς αἰτίας ἔχοντες, οὗτοι καὶ αὐτ' ἴσχυιαν τε αὐτῶν πρᾶξιμα.

B. 1. The Athenian envoy at Sparta, immediately before the Peloponnesian war, states fairly enough (Thucyd. I., 66,) the motives which impelled the Athenians gradually to transform their headship of a maritime confederacy into an empire?

2. The particular modes in which the Athenian empire was felt as a grievance by the allies appear to have been chiefly three?

3. In what manner does the judicial authority of Athens over her allies appear first to have begun?

4. Καὶ ἀπιστοῦμεν γὰρ ἐν τοῖς ἑμβολαῖς πρὸς τοὺς ἐμμέχους δίκαις, καὶ παρ' ἡμῶν αὐτοῖς ἐν τοῖς ὁμοῖς νόμοις παθεῖν τῆς κρίσεως, φιλῶν δὲ δοκῶμεν, κ. τ. λ. Thucyd. I. 77. On what grounds does Mr. Grote refuse to regard the ἑμβολαῖς δίκαις as the same with the δίκαις ἀπὸ ἐμβόλων? Explain the latter term.

5. Compare Sparta's government of her allies with that of the Athenians.

6. What maxim of international law regarding the treatment of allies appears to have been admitted by both the great confederacies into which Greece was divided?

7. Describe the relations between a metropolis and its colony.

8. What are the only events recorded by Thucydides, in his preliminary sketch, between the establishment of the Athenian *tyranny* and the siege of Naxos?

9. Relate the events which led to the thirty years' truce; give the date of that event, and state the conditions upon which it was concluded.

10. To what does Timocydides mainly attribute the hostility of the Corinthians against Athens?

11. What does he assign as the real motive which impelled Sparta to war?

19. Give his account of the closing negotiations between Athens and Sparta.

13. Periétes is described by Thucydides as λόγιον τε καὶ πρῶτον ἐναρτέστατος; is this description applicable to the statesmen of the succeeding age?

III. Translate PLATO's Crito, XII.

1. Τί οὖν, ἂν εἰπωσιν οἱ ἄνθρωποι, ὅτι ἡ Ζάκωρος, ἣ καὶ ταῦτα ἀμολόγησεν ἦρτιν τε καὶ σοὶ, ἡ ῥήματα τοῦ
 βίου αὐτοῦ ἂν ἡ πόλις διακρίῃ; αἱ οὖν αὐτῶν θαυμάζομεν λεγόντων, ἴσως ἂν εἰπωσιν, ὅτι ὁ Ζάκωρος
 μὴ θαύμαζε τὰ λεγόμενα, ἀλλ' ἀπαρίσκει, ἐπειδὴ καὶ εἰσῆκε χρῆσθαι τῇ ἡμερᾷ τε καὶ ἀποκρινέσθαι.
 φίλος γὰρ, τί ἰσχυρῶς ἦρτιν τε καὶ τῇ πόλει ἐπιχειρεῖς ἥρως ἐκπολλύναι; οὐ πρῶτον μὲν ἐκγενομένης
 ἡμεῖς, καὶ δὲ ἡμῶν ἰαλῶσαντες τὴν μητέρα σου οὐ πατρί καὶ ἡρώτως σε; φρόσων οὖν, τοῦτοσε ἡμῶν, τοῖς
 νόμοις τοῖς περὶ τοῦ νόμου γράμμοις, μέμνητε τί ὡς οὐ καλῶς ἔχουσιν; Οὐ μέμνηται, φαίει ἄν. Ἀλλὰ τοῖς περὶ
 τὴν τοῦ γενομένου τροφὴν τε καὶ παιδείαν, ἐν ᾗ καὶ ἐκ παιδιότητος; ἢ οὐ καλῶς προσέταττεν ἡμῶν οἱ παῖ
 τοῖσιν τεταγμένοι νόμοι, παραγγέλλοντες τῇ πατρὶ τῇ σὺ σε ἐν μουσικῇ καὶ γυμναστικῇ παιδεύειν;
 Καλῶς, φαίει ἄν. Εἰτα, ἐπειδὴ δὲ ἔγινον τε καὶ ἱστορήθη καὶ ἐκαστοὶς ἔχουσιν ἂν εἰδέν ἠρώτων μὲν,
 ὡς οὐχ ἡμέτερος ἦσθαι καὶ ἱστορῶν καὶ βούλος, αὐτὸς τε καὶ αἱ σοὶ πράγμων; καὶ αἱ τοῦδ' οὐτως ἔχου,
 ἄρ' ἔτι ἴσως εἴπαι σοὶ τὸ δίκαιον καὶ ἥμισυ, καὶ ἄρ' ἂν ἡμεῖς σε ἐπιχειρῶμεν ποιεῖν, καὶ σὺ ταῦτα
 ἀνταποκρίνῃ οἷσι δίκαιον εἶναι; ἢ πρὸς μὲν ἄρα σοὶ τὸν πατέρα οὗς ἔχῃ σου ἢ τὸ δίκαιον καὶ πρὸς τὸν
 δεσπότην, εἰ σοὶ ἂν ἐνέσχηκεν, ὥστε ἀπερ πάσχεις ταῦτα καὶ ἀνταποκρίνῃ, ὥστε καὶ αὐτὸς ἀκούων ἀμολόγηται
 οὗτε πεπρωμένον ἀνταποκρίνῃ οὗτε ἄλλα τοιαῦτα πολλά; πρὸς δὲ τὴν πατρίδα ἄρα καὶ τοὺς νόμους ἔχουσιν
 σοὶ, ὥστε, εἰάν σε ἐπιχειρῶμεν ἥμεις ἀπολλύναι δίκαιον ἡγομένην εἶναι, καὶ σὺ δὲ ἡμῖς τοὺς νόμους οὐ
 τὴν πατρίδα σὺ δὲ σὺν νόμοις ἐπιχειρῶμεν ἀνταποκρίνῃ, καὶ ῥήσεις ταῦτα ποιεῖν δίκαια πρῶτως, δὲ τῇ
 ἀληθείᾳ τῆς ἀρετῆς ἐπιπαλόμενος; ἢ οὕτως αἱ σοὶ, ὥστε ληλεῖς σε, ὅτι μητρεῖς τε καὶ πατρός καὶ τῶν
 ἄλλων προγόνων ἀπάντων τιμωτέρην ἔστι πατρίς καὶ σεμνότερον καὶ ἁγιώτερον καὶ ἐν μείζονι μείρῃ καὶ
 παρὰ θεοῖς καὶ παρ' ἀνθρώποις τοῖς νόμοις ἔχουσιν, καὶ εἰς βέλους καὶ μάχην ὕψιστον καὶ δυνάστην
 πατρίδα χαλιταίνουσιν ἡ πατρίδα, καὶ ἡ πατρίδα ἡ ποιεῖν ἡ εἶναι καλῆς, καὶ πάσης, εἰάν τε προσέτῃ
 πατρίδι, ὡς οὐκ ἔστιν ἄλλοι, εἰάν τε τίποτεσθαι εἰάν τε δεῖσθαι, εἰάν τε εἰς πόλεμον ἀγῶ τρωθήσμενος ἢ ἀπο
 θανόμενος, σωφρονεῖς ταῦτα, καὶ τὸ δίκαιον εὖτως ἔχου, καὶ οὐχ ὅπως οὐδὲ ἀναχωρεῖς οὐδὲ
 λαοστῆν τῇν πόλιν, ἀλλὰ καὶ ἐν πολέμῳ καὶ ἐν δυνάστερι καὶ παρὰ τοῦ ποιεῖν ἡ εἶναι καλῆς ἡ πόλεως
 καὶ ἡ πατρίδος, ἡ ποιεῖν αὐτὴν ἢ τὸ δίκαιον πέρας βιάζεσθαι ὅς οὐχ ὥστε οὗτε πατρίδα οὗτε πατέρα, πολλὴ
 δὲ τοῖσιν ἐστὶ ἥτιον τὴν πατρίδα. Τὸ φέμενος πρὸς ταῦτα, εἰς ἔρπον; ἀλλ' οὐ λέγειν τοὺς νόμους, ἢ οὐ;
 ΚΡ. Ἐποῖον δεῖσθαι.

(a) *by construction and reconstruction*—What did the ancients include under these terms?

(b) Explain the construction, καὶ ἐν ταῖς ἀντιθέσεσιν οἱ αἱ. τ. λ.

(c) What is the force of the particle $\delta\mu\alpha$ in the sentence $\delta \pi\acute{o}\tau \mu\acute{\alpha}\tau \delta\mu\alpha \sigma\upsilon \tau\acute{o}\nu \nu\alpha\rho\iota\sigma\alpha$?

(d) Illustrate by parallels the phrase *to melizon meliq d'ma*.

(e) Explain the anacoluthon in *εἰς αὐτῆς ἀπολαύειν ἀντιόχου*, and that in *ὁ παῖς αὐτοῦ ἦν τὸ δίδωον τῶν οὐρανῶν*.

2. Explain the following forms of expression :—

(α) Ξίλο τι παρά πολλοὺς ποιεῖ, ὅπως κ. τ. λ.

(b) ἦρα πᾶσι ταῦτα λέγεται;

(c) အောက်ပါ မေးခွန်းများကို ဖြေပါ။

(δ') μαθήματα δι' αὐτῶν ἐν ἰδιόματά τῶν πολλῶν. κ. τ. λ.

(ε) τί ἀξιόξ είμι τυθεῖν ἢ ἀποτίσαι, ὃ τι παθὼν ἐν τῇ βίῃ εὖς ἡσυχίας ἦγον.

IV. Translate into Greek prose :—

IV. Translate into Greek prose :—
The ancient Greek historians gave the name of Scythians and Celto-Scythians to all the northern, while those who preceded them made a division, terming such as lay above the Euxine, the Ister, and the Adriatic, Hyperboreans and Sarmatians, and Arimaspians; while such as lay beyond the Caspians they called, one portion of them Sacians, and another

Massagetes, having in fact not a single particle of information to give about them, although they do not scruple to relate a war between Cyrus and the Massagetes. In fact, neither on the subject of these tribes had any one ascertained any thing to be depended upon, nor was any great credit to be attached to the ancient poets of the Persian, Median, and Assyrian history, owing to the simplicity of the historians and their fondness for legends. For seeing, as they did, professed legend writers in great esteem, they thought that they would give a relish to their productions by relating, in the form of history, matters which they neither saw nor heard of (at least from persons, who they were satisfied were acquainted with what they related), simply and solely because such matters would excite the satisfaction and wonder of the hearers. One has as much reason to put faith in Hesiod and Homer, in their stories of the heroes, as upon Ctesias, Herodotus, and Hellanicus, and others of their stamp.

20th September, 1851, 2 o'clock, p.m.

GREEK.—*Examiner, William Nesbitt, A.M.*

I.—Translate *ILLIAD*, XXII., 475–510.

ὃ δ' ἐπὶ οὐκ ἀμείβετο καὶ ἐς ῥήϊον θυρὸς ἀγέσθαι,
ἀμφιβάλλον γούνοισι κατὰ τραφεύῃσι λυγρῇ
"Ἐστω, ἔγωγε δόσσομαι. ἴψ' ὅρα γόνυ μὲν αἶψα
ἀφαιρόμεν, σὸ μὲν ἐν τρυφῇ Πυλῶνι κατὰ δόμον,
αὐτὰρ ἐγὼ Θέβρευν ἐνὶ Πύλῳ ἰλίσσων
ἐν δόμῳ Ἡερῖου, ὃ μ' ἱερὰς τρυφὰς ἐπέσται,
δόσσομαι ἀνέμενον· ὡς γὰρ ἀνέλλε τοιοῦτον.
σὺν δὲ σὸ μὲν Ἀλλαν δόμον ἐνὶ εἰδέσσι γαίης
ἔρχεται, αὐτὰρ ἐπεὶ σπαραγὴν ἐπὶ πύλῳ λαίπρως
χέρον ἐν μεγάροισι. πῶς δ' ἐνὶ νύκτιος αἵματος,
ὅν τινα σὺ τ' ἔγωγε τι δασυόμορος; αὐτὸν σὺ τούτῳ
ἔσταις. ἔστω, λυγρὸν ἐπὶ θύισι, σέθεν σοι εἰσὶν
ἔν περ γὰρ πύλῳ γὰρ φέγγυ καλὸν ἔσται· Ἀχαιῶν
αἰὲν ται τούτῳ γὰρ πόνοισι καὶ ἐλπίδι ἐπίσταν
ἔσταν· ἄλλοι γάρ σι δασυόμορος ἀνέμενον,
ἔσται δ' ἄρ' ἀνέμενον παρὰ γόνασι τούτῳ
σέθεν δ' ἀνέμενον, ἐλπίσται δὲ σέθεν.
δασυόμορος δὲ τ' ἔσται πῶς ἐς πατρὸς ἐστίασιν,
ἄλλαν μὲν χλαῖνας ἔχον, ἄλλαν δὲ χιτῶνας
σὺν δ' ἄρ' ἀνέμενον κατὰ τας τρυφὰς ἐπέσται
χλαῖνας μὲν τ' ἔχον, ἀνέμενον δ' ἐπὶ ἐλπίσιν.
σὺν δὲ καὶ ἀνέμενον ἐν δασυόμορος ἐπὶ γόνασι,
χιτῶν κατὰ γόνασι καὶ ἐλπίσιν ἐπὶ γόνασι
"ἴψ' αἶψα· σὺ σὺ γὰρ κατὰ μνηστῆρας ἔσται."
δασυόμορος δὲ τ' ἔσται πῶς ἐς πατρὸς χλαῖνας,
Ἀχαιῶν δὲ σὺν μὲν ἔσται ἐπὶ γόνασι πατρὸς
πύλῳ σέθεν ἔσται καὶ οὐκ ἔσται δασυόμορος
αὐτὰρ ἔσται ἔσται, παρὰ τὰς τρυφὰς ἐπέσται,
ἔσται ἐν μεγάροισι, ἐν δασυόμορος ἐπὶ γόνασι
σὺν δ' ἐπὶ γόνασι πύλῳ ἐπὶ γόνασι πατρὸς
Ἀχαιῶν, ἐν τρυφῇ ἐπὶ γόνασι ἐπὶ γόνασι
αἶψα γὰρ σὺν ἔσται πύλῳ καὶ τρυφῇ πατρὸς
σὺν δὲ σὺ μὲν παρὰ γόνασι ἐπὶ γόνασι, σέθεν τρυφῇ
αἶψα ἐπὶ γόνασι ἔσται, ἐπὶ σέθεν ἐπὶ γόνασι."

(a) Cite an expression from the *Iliad* which explains the metaphor involved in ἀμφιβάλλον γούνοισι.

(b) We find in the latter books of the *Iliad* several words framed upon the analogy of παρὰ γόνασι.

(c) Trace the steps by which αἶψα has acquired the signification which it bears in the phrase νύκτιος αἵματος, giving examples of each modification of meaning.

(d) Discuss the following words:—

ἀμείβετο, ἀνέμενον, ἀνέμενον, ἐπὶ γόνασι, ἔσται, αἶψα.

II.—Translate *ODYSSEY*, XIV., 147–199.

ὅν δ' αὖτε προσέειπε πολύτλας δῖος Ὀδυσσεύς·
"ὦ πότ' ἐπὶ τῷ πότῳ ἀνέμενον, σὺ δ' ἐπὶ γόνασι
αἶψα δασυόμορος, σέθεν δὲ τὰς αἶψα δασυόμορος
δὲν ἐπὶ οὐκ αἶψα μεθήσται, ἀλλὰ σὺν ἔσται
ὡς σέθεν Ὀδυσσεύς. αἶψα γὰρ δὲ μὲν ἔσται
αἶψα, ἐπὶ σέθεν αἶψα δὲ τὸ δασυόμορος ἔσται
ἔσται σέθεν πύλῳ πύλῳ, ἐπὶ τὰς τρυφὰς
ἐπὶ τ' Ὀδυσσεύς ἀνέμενον, ἐν δασυόμορος
ὃ μὲν σὺ τῷ πύλῳ πύλῳ ὡς ἀνέμενον.
τῷ δ' αἶψα λυγρῶς δασυόμορος ἐπὶ τ' Ὀδυσσεύς."

ὅτι δ' ἀποσταλόμενος πρεσβύτερος, ἔβριμαι ἐκείθεν
 "ὃ γάρ μοι, οὐκ ἄγ' ἔχοντα καταγράψαι νόμιμα εἶναι,
 οὐκ ὀδύνην ἐστὶν ὅπως ἐκαστοῦται· διὰ δὲ τοῦτο
 οὐκ αἶμα παρὶ ἐμὲ ἀνέστη, ἀλλ' αὖ τοῦτον
 αἰσχροῦ· ὃ γὰρ θεῶς ἐστὶν ἐκείθεν ἡμῶν
 ἀνέστη, ὁποῦτος ἐν μέσῳ ἐκείθεν ἀνέστη.

ἀλλ' ἄγε μαι σὲ, γυναι, τὴ σ' αἰνεῖσθαι ἐθέλω θύσσειν."

τὸν δὲ διαμαρτυρούμενος ἐπὶ τῇσι πολεμίαις· Ὁδισσεύς·
 "τοσοῦτο ἐγὼ τοι παῖδρα μὲν ἀποπέμψας ἀγαγέμεναι.
 εἴη μὲν οὖν πόλεος ἐπὶ χρόνῳ ἥτις ἐμὸν ἰδίῳ
 καὶ μῆδ' ἑταίρων ἀπολογίῃ ἐκπεσέμεν ἔστιν
 ἐπινοήσας δαίμων, ἄλλος δ' ἐπὶ ἔργῳ ἵσταται·
 βασιλεὺς τοι ἵσταται καὶ εἰς ἡμετέρας θάλασσας
 ὅτε τοι διατρέψαται λίγυρος ἐπὶ ἥδεσσι θαλάσῃ,
 ὅτε καὶ εἰς ἡμετέρας πόλεις ἵδμεν ἰσχυρὰ μέγαλα."

- Give Buttman's account of the form *ivros*.
- What is there remarkable in the Homeric use of the word *deios*?
- What is the meaning of *ivros* in the Prometheus Vinctus of Aeschylus?

III.—Translate *ÆSCHYLUS, PROMETHEUS VINCTUS*, 397-424, 707-728.

- [illegible]

1. (a) What various reading has been proposed for ἀμύγαρα γὰρ ρόλε Ζεὺς | ἰλίος κ.τ.λ. in order to avoid the unusual meaning which must otherwise be given to ἀμύγαρα?
- (b) A passage of Horace has been cited to illustrate the combination Σείδιος ἑταῖρος—Ἀραβίας ὁ ἄριστος ἄνθρωπος.
- (c) What is Burges's very ingenious emendation for Ἀραβίας.
2. (a) Correct the common reading ἐκρηγμένον v. 711.
- (b) What various reading do we find for πρόσθεναι. Which reading do you prefer, and upon what grounds?
- (c) Cite parallels to the construction λαῖοι χεῖρες.
- (d) There is a striking parallel to the expression ἐβρίστην ποταμὸν in the first book of Herodotus—cite the passage.
- (e) The poet has made a strange mistake in placing Themiscyra near the Thermodon—point out its true site.

VII.—1. *Ἀπὸ τῶν Μυθιστοριῶν—τίνα κἀπαγγέλλει τῶν τῶν ἰόντων αἰθερὶς θεουργίαν, καὶ διδύραμβον ὑμῶν ἀνθρώπων τῶν ἡμεῖς ἴδμεν τοιοῦτά τε καὶ ἀσπείοντα καὶ διδάξαντα ἐν Κορίνθῳ, τοῖς τῶν Ἀπὸ τῶν Μύθων, &c. &c. Herod. I., 23.*

Write a brief comment on this passage.

2. Explain the manner in which tragedy may have arisen from the didyrambic choruses.

3. State the arguments for and against lyrical tragedy as a distinct species.

4. Account for the fact that the choral element of the Attic tragedy was written in the Doric dialect.

5. What circumstances lend probability to the conjecture that the dialogue or Ionian element of Attic tragedy was connected with the rhapsodical recitations?

6. How is the metre in which it is written to be accounted for?

7. When did the union of the iambic dialogue with the lyrical chorus take place?

8. Cite the passage of Aristotle in which he describes the improvements made in tragedy by Æschylus, and compare it with Horace's allusion to the improvements of Æschylus in the "Art of Poetry."

9. What was the crowning improvement in Greek tragedy?

10. Enumerate the innovations of Euripides. To what class of composition does his *Alceste* belong?

11. Give Aristotle's definition of tragedy.

12. How does Horace (*Ar. Poet.*) describe the functions of the chorus?

13. The place of the chorus in Greek tragedy has been well elucidated by Schlegel?

VIII.—Translate into Greek verse the following stanzas from Wordsworth's "Laodamia:"

Ah wherefore?—did not Hercules by force

Wrest from the guardian monster of the tomb

Alceste, a reanimated corpse,

Given back to dwell on earth in vernal bloom?

Medea's spells dispersed the weight of years,

And Æson stood a youth 'mid youthful peers.

The Gods to us are merciful—and they

Yet further may relent, for mightier far

Than strength of nerve or sinew, or the sway

Of magic potent over sun and star,

Is love, though oft to agony distress'd,

And though his favourite seat be feeble woman's breast.

EXAMINATION FOR HONORS, B.A.

27th September, 1855, 9 o'clock, a.m.

LATIN.—*Examiner, Charles Parsons Reichel, B.D.*

HORACE.—ODES.

Lydia dic per omnes te deos oro Sybarin cur properas amando perdere cur apricum
oderit campum patiens pulveris atque solis cur neque militaris inter aequales equitat Gallien
nec lupatis temporat ora frenis cur timet flavum liberum tangere cur olivum sanguine
viperino cautius vitat neque jam livida gestat armis brachia sæpe disco esse trans finem
jaculo nobilis expedito quid lætet ut maritum filium dicunt Thetidis sub lacrimosa Troja
funera ne virilis cultus in cædendæ et Lycias procriperet catervas.

1. Translate the foregoing ode.

2. Mark on the paper the divisions of its lines, and specify the metres employed in it.

3. Give the dates assigned by Bentley for the bringing out of the several parts of Horace's works, and state how far the best recent commentators have confirmed his conclusions.

4. Draw up a scale of the Alcaic and Sapphic metres, as used by Horace; and specify the restrictions he has introduced into them.

VIRGIL.—ÆNEID, BOOK VI.

Principio cælum ac terras camposque liquentes

Lucentemque globum lunæ Titanisque astra

Spiritus intus alit, totamque infusa per artus

Mens agitat molem et magno se corpore misceat.

Inde hominum pecudumque genus, vitæque volantem,

Et quæ marmoreo fert monstra sub aquore pontus.

Igneus est illis vigor et celestis origo

Seminibus, quantum non noxia corpora tardant,

Terrenique hebetant artus moribundæque membra.

Hinc metuant expluntque, dolent gandontque; neque auras

Dispicunt, clausi tenebris et carcere cæco.

Quia et supremo quem lumine vita reliquit,

Non tamen omne malum miseria nec funditus omnes

Corporeæ excedunt pestes: penitusque necesse est

Multa diu concreta modis inolescere miris.

Ergo exercentur penis, veterumque malorum

Supplicia expendant. Alibi penduntur inanes

Suspense ad ventos: aliis sub gurgite vasto
 Infectum eluitur sedas aut exaritur igni.
 Quisque suos patimur manes: exinde per amplam
 Mittimur elysium, et pauci lota arva tenemus:
 Donec longa dies, perfecto temporis orbe,
 Concretam exemit labem, parumquo relinquit
 Ætherium sensum atque aurai simplicis ignem.
 Has omnes ubi mille rotam volvere per annos
 Lethæum ad fluvium deus evocat agmine magno:
 Scilicet immemores supera ut convexa revisant
 Rursus, et incipiant in corpora velle reverti.

1. Translate this passage, and add such comments as you think necessary to explain its phraseology and the philosophic system set forth in it.

TERENCE.—PHORMIO.

Antipho. Non sum apud me. *Geta.* Atqui opus est anne quum maxime ut sis, Antipho:
 Nam si seneſcit tibi pater esse, arbitrabitur
 Commeruisse culpam. *Phædria.* Hoc verum est. *A.* Non possum immutari.
G. Quid faceres, si aliud quid gravius tibi nunc faciendum foret?
A. Quum hoc non possum, illud minus possem. *G.* Hoc nihil est, Phædria; illeceſt
 Quid hic contemnimus operum frustra? quin abeo? *PA.* Et quidem ego. *A.* Ohacero,
 Quid si adsimulo, satius est? *G.* Garra. *A.* Vultum contemplantini; hem,
 Satius est sis? *G.* Non. *A.* Quid si sic? *G.* Proposcedum. *A.* Quid si sic?
G. Sat est:

Hem, istuc serya: et verbum verbo, par pari ut respondeas,
 Ne te iratus suis sævidiciis dictis protelet. *A.* Scio.

G. Vi coactum te esse, invitum, lege, iudicio: tenes?
 Sed quis hic est senex, quem video in ultima platos? *A.* Ipeus est.
 Non possum adesse. *G.* Ah, quid agis? quo abis, Antipho?
 Mane, inquam. *A.* Ego me novi et peccatum meum:
 Vobis commendo Phanium et vitam meam.

PA. Geta, quid nunc fiet? *G.* Tu jam lites audies:

Ego plectar pendens, nisi quid me fefellerit.

Sed, quod modo hic nos Antiphonem monuimus,

Id nammet ipse facere oportet, Phædria.

PA. Aufer mi oportet: quin tu, quid faciam, impera.

G. Meministi, olim ut fuerit vestra oratio

In re incipiunda ad defendendam noxiam,

Iustam illam causam, facilem, vincibilem, optatam?

PA. Memini. *G.* Hem, anne ipsa ista opus est: aut, si quid potest,

Mellius et callidius. *PA.* Fiet sedulo.

G. Nunc prior adito tu. Ego in subsidis hic ero

Succenturiatus si quid deficiat. *PA.* Ago.

1. Translate the above extract.
2. Specify the different metres used in it, and accent the lines accordingly.
3. Enumerate the chief metres used by Terence, and specify the chief licences which occur in his versification.
4. State the plot of the *Phormio*. On what law does it turn?
5. Cite and amend the line of the prologue which gives the name of the Greek original of the play.

TACITUS.—HISTORIES, BOOK I.

Fuere qui proficiscenti Othoni mores religionemque nondum conditorum ancilliam affuerunt. Aspernatus est omnem cunctationem ut Noroni quoque exiticam: et Cæcina jam Alpes Neronianarum exstimulabat. Fride Idus Martias commendata patribus republica reliquias Neronianarum sectionum, necdum in fisco conversas, revocatis ab auxilio concessit, iustissimum donum et in speciem magnificum, sed festinata jam pridem exactione usu sterile. Mox vocata concione, maiestatem urbis et consensum populi ac senatus pro se attollens, adversum Vitellianæ partes modesto disseruit, incertam potius legionum quam audaciam increpans, nulla Vitelli mentione, sive ipsius ea moderatio, seu scriptor orationis sibi metueus contumeliis in Vitellium abstinent, quando, ut in consiliis militie Suetonio Paulino et Mario Celso, ita in rebus urbanis Galerii Trachali ingenio Othonom uti credebatur. Et erant qui genus ipsum orandi monerent, crebro fori usu celebre et ad implendas aures latum et sonans. Clamor vocisque vulgi, ex more adulandi, nimis et falsæ. Quasi dictatorem Cæsarem aut imperatorem Augustum prosequerentur, ita studiis votisque cessabant: nec metu aut amore, sed ex libidine serviti, ut in familiis, privata cuique stimulat et vile iam decus publicum.

1. Translate this passage.
2. Explain the words "religionem nondum conditorum ancilliam," "reliquis Neronianarum sectionum."

CICERO IN VERREM.—ACQUSSIONES LIB. I.

Rejetti a Chelidone, capient consilium necessarium, ut suscipiant ipsi negotium. Cum Rabonio tutore quod erat vix HS. quadraginta milium, transigunt HS. ducentis milibus. Refert ad istum rem Rabonius: ut sibi videatur, satis grandem pecuniam et satis impu-

dentem esse. Iste, qui aliquanto plus cogitasset, male accipit verbis Rabonium : negat eum sibi illa decisivè satisfacere posse. Ne multa, locuturum se esse confirmat. Tutores hæc nesciunt; quod actum erat cum Rabonio, putant id esse certissimum : nullam majorem pupille metuant calamitatem. Iste vero non procrastinat : locare incipit, non proscripta neque edicta die, alienissimo tempore, ludis ipsis Romanis, foro ornato. Itaque renundat Rabonius illam decisionem tutoribus. Accurrunt tamen ad tempus tutores : digitam tollit Junius patruus. Isti color lumentatus est : vultus, oratio, meus denique excidit. Quid ageret, cepit cogitare. Si opus pupille redimeretur, si res abiret ab eo mancipio, quem ipse apponisset, sibi nullam prædam esse. Itaque excogitat, quid? Nihil ingeniose : nihil, quod quisquam possit dicere, improbe, verum callido : nihil ab isto tectum, nihil veteratorem expectaveritis : omnia aperta, omnia perspicua esse reperientur, impudentia, amentia, audacia. Si pupillo opus redimitur, nulli pericula de manibus eripietur. Quod est igitur remedium? quod? Ne liceat pupille redimere. Ubi illa consuetudo in prædibus prædibusque vendendis, omnium consulum, censorum, prætorum, quæstorum denique, ut optima condicione sit is, cujus res sit, cujus periculum? Excludit eum solum, cui prope dicam soli potestatem factam esse oportebat. Quid enim quisquam ad meam pecuniam, me invito, adspirat? Quid accedit? Locatur opus id, quod ex mea pecunia reficiatur : ego me refectorum esse dico : probatio futura est tunc qui locas : prædibus et prædiis populo cautum est : et, si non putas cautum, scilicet tu prætor in mea bona quos vales immittis? Me ad mea fortuna defendendas accedere non aines?

1. Translate this passage.

2. Explain the phrases and words sartum tectum, manubius, ad perpendicular, comperendatio, amplius pronuntiare, lege agere, sponsonem facere, pro præde litis vindictarum satis accipere, accepta expensæ referre, manus pretium, lapis redivivus, subscritio.

3. Give the dates, ascertained or probable, and the provisions, as far as they are known, of the leges Æilia, Servilia (Glancæ), and Cornelia de repetundis. When and by whom was the first law on this subject carried?

4. Give the exact date of the trial of Verres. What great change in the conduct of criminal trials took place in the same year?

27th September, 1855, 2 o'clock, p.m.

LATEX.—*Examiner, Charles Parsons Reichel, B.D.*

LIVR, BOOK IV.

I. Translate into English prose the following passage:—

Tribunicia primum comitia sunt habita, creati tribuni consulari potestate omnes patricii, L. Quinctius Cincinnatus tertium : L. Furius Medullinus iterum : A. Sempronius Atratinus. Hoc tribuno comitia quæstorum habente, potentibusque inter aliquot plebeios filio Antistii tribuni plebis et fratre alterius tribuni plebis Sex. Pompili, nec potestas nec suffragatio horum valuit, quin quorum avos patresque consules viderant eos nobilitate præferrent. Furere omnes tribuni plebis, ante omnes Pompius Antistiusque, repulsa suorum accensi, Quidnam id rei esset? Non suis beneficiis, non Patrum injuriis, non denique usurpandi libidine, quam licet quod ante non foveris, si non tribunum militarem, ne quæstorem quidem quæquam ex plebe factum. Non valuisse patris pro filio, fratris pro fratre præces, tribunorum plebis potestatis sacrosanctæ ad auxilium liberatis creasse. Fraudem profecto in re esse, et A. Sempronium comitis plus artis adhibuisse quam fidei. Ejus injuria queri suos honore defectos. Itaque quam in ipsam, et innocentiam tutum et magistratu in quo tunc erat, impetus fieri non posset, flexere iras in C. Sempronium patrem Atratinum : eique ob ignominiam Volaci belli, adjutore collega M. Camuleio diem dixere. Suidæ ab iisdem tribunis mentio in senatu de agris dividendis illata est, cui actioni semper acerbum C. Sempronius resistere : ratio, id quod erat, antea deposita causa leviorum futurum apud Patres rem, aut perseverantem sub iudicio tempus plebem effusuram. Eodem anno Postumia virgo Vestalis de incestu causam dixit, crimine innoxia, ob suspicionem propter cultum amoniorum ingonimque liberius quam virginem decet, parum abhorrens famam. Ampliatam, deinde abolutam, pro collegi sententia pontifex maximus abstinere joci, colloque sancto potius quam scite jussit.

1. Comment on the last sentence but one of the passage.

2. Between what years do we find military tribunes with consular authority? and how does Niebuhr account for their number varying in different years?

II. Retranslate into Latin prose:—

If it has ever been doubted, fellow-citizens, whether it has been for your sake or for their own that the Tribunes of the commons have always been promoters of faction, I feel sure that this has ceased to be doubted in this present year. And as I rejoice that at length an end has been put to a mistake under which you have long laboured, so do I congratulate both you, and for your sakes the commonwealth, that this mistake has been removed of all times at the time of your prospering. Or is there any one who doubts that the Tribunes of the commons have never at any time been as much offended and enraged by any wrongs done by you, if such there have been at any time, as by the boon of the Fathers to the commons, in appointing pay for those engaged in military service? What else do you think they either at that time dreaded, or now wish to disturb, but that unanimity of the two orders of citizens, to break up which they think is the peculiar province of the Tribunician authority? Thus it is that like dishonest artisans they try to make work for themselves, always wishing that there should be something diseased in the

commonwealth, in order that there may be something in remedying which they may be employed by you. For whether are you, Tribunes, fighting *for* or *against* the commons? Whether are you the adversaries or the abettors of those engaged in military service? Unless haply you say, Whatever the Fathers do displeases us, whether it be for the commons or against them. And as masters forbid their slaves having any thing to do with other people, and think it right that others should abstain alike from kindnesses and injuries with regard to them, so do you interdict all intercourse between the Fathers and the commons, lest we by our courtesy and munificence should challenge the commons to a like return, and lest the commons should be loyal and obedient to us. How much rather ought you, had you one spark, I do not say of civic but of social spirit, to have favoured, and to the best of your ability promoted, courtesy on the part of the Fathers and loyalty on that of the commons? A unanimity of feeling which, should it be perpetual, who would not dare solemnly to pledge himself that in a short time this will be greater than all the neighbouring states?

LIVY.

28th September, 1855, 9 o'clock, a.m.

ENGLISH LANGUAGE AND LITERATURE.—*Examiner, Rev. C. F. Darley, A.M.*

1. State the sources of Shakespeare's tragedy of *Macbeth*.
2. Explain the meanings of the following words and passages that occur in the play of *Macbeth*—

"Minion," "weird," "trammel," "quell," "dudgeon,"

"We rest your hermits."

"A good and virtuous nature may recoil
In an imperial charge."

"Macbeth

Is ripe for shaking, and the Powers above
Put on their instruments."

"And some I see,

That two-fold balls and treble sceptres carry."

3. Give the latest readings, *variation*, of the following passages in *Macbeth*—

"Nor heaven break through the blanket of the dark."

"What beast was't, then,

That made you break this enterprise to me?"

"With Tarquin's ravishing strides towards his design."

"This push

Will cheer me ever, or dissent me now."

"Cleansed the stuffed bosom of that perilous stuff."

"The time has been my senses would have cooled
To hear a night shriek."

1. State the sources of the play of the *Merchant of Venice*.
2. Explain the meanings of the following words and passages that occur in that play:—

"I'll end my exhortation after dinner."

"Sometimes," "scoties," "enter-cousins," "regreets."

"Beset your eyes that have overlooked me."

"Fancy," "guiled," "counterfeit," "fond," "teccata."

"Let me give life, but let me not be light."

"Like cutlers' poetry upon a knife."

1st BOOK OF MILTON'S *PARADISE LOST*.

3. "And justify the ways of God to man." This passage of Milton is nearly identical with one written by a later poet. Name the poet, and give his version of the passage.
4. Mention some of the chief leaders of the fallen angels, and give an account of them.
5. "A leper once he lost and gained a king." Explain this passage.
6. Azazel. Wherefore so called?

MILTON'S *COMUS*.

"The sea-girt isles;

That like two rich and various gems inlay;

The unadorned bosom of the deep."

Cite a parallel from Shakespeare.

7. "The sounds and seas, with all their finny drove,
Now to the moon in wakening morrice move."

Explain this passage.

8. What philosophical doctrines does the elder brother hold in *Comus*?
9. "And took in strains that might create a soul
Under the ribs of death?"

Explain this.

Quote or indicate such portions of *Macbeth*, the *Merchant of Venice*, the 1st book of *Paradise Lost*, and *Comus*—as you may conceive to be the best specimens; and make your comments upon them.

28th September, 1815, 2 o'clock, p.m.

ENGLISH LANGUAGE AND LITERATURE.—Examiner, *Rev. C. F. Darley, A.M.*

1. Give a sketch of the genius of Burke and his works.

CHAUCER'S HOUSE OF FAME.

First Extract.

And smale harpers, with hir glees,
 Sate under hem in diverse soos,
 And gone on hem upward to gape,
 And counterfited hem as an ape;
 Or as craft counterfeit kind
 Tho saw I standen hem behind
 A farre from hem all by hemselve
 Many a thousand times twelve,
 That made loud minstreltricies
 In cornemuse and shalmies.
 And many another pipe,
 That craftely began to pipe,
 Both in donced and in rede,
 That ben at feasts with the brede.
 And many a floyte and liding horne,
 And pipes made of greene corne,
 As have these litte heard grouses,
 That keepen beastes in the bromes.
 There saw I eke famous old and yong,
 Pipers of all the Dutch tong,
 To learn love daunces, springs
 Reyes and the straunge thinga,
 Tho' saw I in another place,
 Standing in a large space,
 Of hem that maken bloody seum
 In trumpe bome and clarionn;
 For in fight and bloodsheddings
 Is used gladly clarionings.
 There saw I sit in other sees,
 Playing upon other sundry glees,
 Which that I cannot never
 Mo than sterres ben in heven;
 Of which I n'ill as now not rime
 For ease of you and lose of time;
 For time ylost, this know ye,
 By no way recovered be.
 There saw I playing jogelours,
 Magiciens and tragetours,
 And pletounises, &c., &c., &c.

Second Extract.

What should I make longer tale
 Of all the people that I sey
 I could not tell till domisday.
 When I had all this folke behold,
 And found me loose and not hold,
 And I amused a long while
 Upon this wall of berile,
 That shone lighter than a glas,
 And made well more than it was
 As kinde thing of fame is.
 And that anone after this
 I gan forth romon, till I fonde
 The castell yste on my right honde,
 Which so well corren was
 That never such another n'as;
 And yet it was by aventure
 Ywrought by great and subtil cure.
 It needeth not you more to tellen
 To make you to long dwellen
 Of these yates flourishing.
 Ne of compases, ne of karvinga,
 Ne how the hacking in masonries,
 As corbettes and imageries.

But Lord so faire it was to shewe,
 But it was all with gold behewe.
 But in I went, and that anone
 There met I crying many one,

"A larges, a larges, hold up well!
God save the Lady of this pell,
Our owne gentill lady Fame,
And hem that wilten to have a name
Of us!" Thus heard I crien all,
And fast comen out of the hall,
And shoke nobles and starlings,
And crowned were as kings,
With crownes wrought full of losinges,
And many ribans and many fringes,
Wore on hir clothes truly.

The' at the last, espied I
That pursevauntes and heraudes,
That crien riche folkes laudes.
It weren all and every man
Of hem as I you tell can,
Had on him throwe a vesture
Which men clepe a coate armure;
Embroidred wonderly riche,
As though they were not yliche.
But not will I, so mote I thrive,
Be about to descrive
All these arms that there weren,
That they thus on hir coates weren,
For to me were impossible.
Men might make of hem a bible
Twenty foot thick, as I trow.

2. Render the above extracts into modern English, and point out any peculiarity of grammar or composition, &c., that may present itself.

3. What comparatively modern poet has given a version of Chaucer's House of Fame?

ESSAY.

"Chaucer's House of Fame."

29th September, 1855, 9 o'clock, a.m.

MODERN LANGUAGE.—*Examiner, Professor Frings, Ph.D.*

GERMAN.—I.

A.

1. Was ist der Name des Dichters "Deschamps"?
2. Woher rührt sich die Bekanntschaft zwischen der deutschen und englischen Sprachen?
3. Warum schrieben die Dichter, daß die Litteratur dichterischer Uebersetzungen sich?
4. Wodurch unterscheidet sich die deutsche Sprache besonders von den andern andern Sprachen?
5. Wer gab den Deutschen den Namen "Germanen"?
6. Wodurch unterscheidet sich die deutsche Sprache von der englischen Sprache im 18ten Jahrhundert zu?
7. Wodurch unterscheidet sich die deutsche Sprache von der englischen Sprache von ihrem ersten Ursprung bis zu ihrem gegenwärtigen Standpunkt?
8. Was ist die deutsche Sprache jetzt ein, nach und so entfernt, Entfernung mit jetzt eine andere Sprache, und mit welcher?

B.

1. Kennen Sie deutsche Dichter, die im großen Partisip der Herrn des Jenseits beiseite, und unter solchen Umständen.
2. Untersuchen Sie die "Das temple über mich," und "Man temple über mich."
3. Was ist der Name des Dichters, der die Bildung eines Satzes? Gibt es Unterschiede und welche?
4. Was ist im Deutschen die Bildung, und was ist, und wie unterscheidet sie sich in der deutschen Sprache?
5. Was bedeutet "Bilder" mit dem Ausdruck auf der ersten Seite, und was, mit dem Ausdruck auf der zweiten?
6. Unter welchen Umständen wird der Name von dem Dichter abgelesen und aus der Seite des Satzes gelesen?
7. Untersuchen Sie die "Das ist" und "Das ist," und was ist die andere dazwischenliegende Signifikanz, die dabei ablesbar.
8. Welche Dichter stehen im Deutschen der besten folgenden Dichter ohne den Namen zu?

II.

Translate into German:—

To say the truth, eating seems to make a grand ingredient in all English parties of zeal, business, or amusement. When a church is to be built, or an hospital endowed, the directors assemble, and instead of consulting upon it, they eat upon it; by which means the business goes forward with success. When the poor are to be relieved, the officers appointed to dole out public charity assemble and eat upon it. Nor has it ever been known that they filled the bellies of the poor, till they had previously satisfied their own. And yet I could forgive this people their plentiful meals on such occasions, as it is extremely natural for every man to eat a great deal when he gets it for nothing; but what amazes me is, that all this good living no way contributes to improve their good humour. On the contrary, they seem to lose their temper as they lose their appetites; every morsel they swallow, and every glass they pour down, serves to increase their animosity.

GOLDSMITH.

FRENCH—I.

A.—1. Que veulent dire les expressions "*Langue d'Oc* et *Langue d'Oïl*"? Lequel de ces deux dialectes est devenu la langue française d'aujourd'hui, et quelle est la différence de ces deux dialectes?

2. Quelle est l'origine de la langue française?

3. Comment les terminaisons latines: *-atio, -io, -or, -tas* sont-elles généralement rendues en français?

4. Qui est-ce qui a porté la langue française à sa perfection?

5. À qui les Français attribuent-ils le mérite d'avoir perfectionné l'art d'écrire en vers?

6. Nommez les langues qui ont contribué plus ou moins à enrichir la langue française?

7. Quelles sont les causes principales qui ont contribué à rendre la langue française universelle?

8. Est-ce que l'orthographe française d'aujourd'hui diffère de celle du siècle de Louis XIV., et en quoi?

B.—1. Quelle est la différence entre *Savoir* et *Connaitre*?

2. Dans quels cas les Français se servent-ils de l'adjectif au lieu de l'adverbe?

3. Est-ce que la phrase suivante est correcte? Si non, corrigez s'il vous plaît:—
"Mes secours s'étaient proposés de passer trois mois à la campagne, mais des accidents imprévus les en ont empêchés."

4. Mentionnez toutes les règles que vous savez sur l'emploi du subjonctif en français.

5. Est-il correct de dire, "Je consolerai vos oreilles?" Si non, corrigez et donnez la règle.

6. Quand le Participe présent est-il variable et quand ne l'est-il pas? Donnez des exemples.

7. Montrez en quel usage des nombres cardinaux diffère en français de celui qu'on en fait en anglais.

8. Est-ce que la prose française admet des inversions, et lesquelles?

II.—Translate into French:

France and England may each of them have some reason to dread the increase of the naval and military power of the other; but for either of them to envy the internal happiness and prosperity of the other, the cultivation of its lands, the advancement of its manufactures, the increase of its commerce, the security and number of its ports and harbours, its proficiency in all the liberal arts and sciences, is surely beneath the dignity of two such great nations. These are the real improvements of the world we live in. Mankind are benefited, human nature is ennobled by them. In such improvements each ought, not only to endeavour itself to excel, but, from the love of mankind, to promote, instead of obstructing the excellence of its neighbours. These are all proper objects of national emulation, not of national prejudice or envy.

—SMITH—*National Prejudice.*

ITALIAN.

I.—1. La Lingua Italiana, quella cioè che coltivano i letterati, ne si usò o non fu ben sistemata prima del che secolo?

2. Perché la lingua dei Trovadori era detta romanesca?

3. Quali fra i restauratori benemeriti della Lingua Italiana, che scrissero poco innanzi del Dante sono degni di menzione?

4. Qual è l'opera di Boccaccio la più pregiata, e a cui deve singolarmente la celebrità del suo nome?

5. Menzionate gli uomini grandi per quanti potete ricordarvi nello secolo diciottesimo.

6. Citate i più celebri italiani Scrittori drammatici.

7. Che sono i più celebri Epici italiani? Citate i loro poetici componimenti i più considerabili.

8. Che secolo vide nascere Lodovico Ariosto?

9. In vista di qual opera lo più colte Nazioni d'unanimità consenso danno all'Ariosto il titolo di divino?

10. Perché nel secolo diciassettesimo si vide languir di nuovo il buon gusto della italiana letteratura?

11. Come si forma il plurale dei sostantivi italiani?

12. Come, in italiano, si esprimano la comparazione di uguaglianza, e come, se voglia annunziare superiorità?

13. Che secolo era detto "*Il Secolo d'oro*" della italiana letteratura, e perché?

14. Quando il participio passato in italiano si regola col suo nominativo, e quando colla sua concordanza?

II.—Translate into Italian:—

When I was a child, of seven years of age, my friends, on a holiday, filled my pockets with coppers. I went directly to a shop where they sold toys for children; and, being charmed with the sound of a whistle that I saw on the way in the hands of another boy, I voluntarily offered him all my money for one. I then came home, and went whistling all over the house, much pleased with my whistle, but disturbing all the family. My brothers, and sisters, and cousins, understanding the bargain I had made, told me I had given four times as much for it as it was worth. This put me in mind what good things I might have bought with the rest of the money; and they laughed at me so much for my folly, that I cried with vexation, and the reflection gave me more chagrin than the whistle gave me pleasure.

FRANKLIN.

G

To be re-translated into Irish :—

This was a distinguished crew for one ship. For it is, indeed, certain that the sea had not supported, and the winds had not wafted from Ireland, in modern times, a party of one ship, who would have been more illustrious or noble in point of genealogy, or more renowned for deeds, valour, prowess, or high achievements, than they, if God had permitted them to remain in their patrimonies, until their children should have reached the age of manhood. Wee to the heart that meditated, wee to the mind that conceived, wee to the council that decided on the project of their setting out on this voyage, without knowing whether they should ever return to their native principalities or patrimonies.

To be translated into Irish :—

All the histories of the middle ages, which have been found in other countries, have been printed. The English have, I think, the best histories of that period. I do not see why the "Psalter of Cúiséal" should not be printed, as well as "Robert of Gloster." If I were to give my opinion to the Society of Antiquaries I should propose that they should be printed in two columns, one English and the other Latin, like the "Saxon Chronicle," which is a very valuable monument, and above all things that the translation should be exact and literal. Until something of this kind is done that ancient period of Irish history which precedes official records cannot be said to stand upon any proper authority.

BURKE.

1. State the changes which the article, in Irish, causes in the beginning of nouns.
2. Enumerate the indefinite pronouns, and point out any which are declinable.
3. State the various ways in which the infinitive mood of active verbs is formed, and its peculiarity which distinguishes Irish from most other languages, in governing different cases.
4. Point out the various modes in which compound terms are formed.
5. When is the adjective not placed after its substantive? and when is its form independent of the substantive?
6. Enumerate and explain the requisites of *dan díreacht* verse, giving their Irish designations.

1st October, 1835, 9 o'clock, a.m.

MATHEMATICS.—*Examiner, Rev. Robert Carmichael, A.M., F.T.C.D.*

1. n being an odd number and the roots of the equation

$$x^n - px^{n-1} + qx^{n-2} - \&c., = 0$$

being in arithmetic progression, show that this equation can be reduced one degree, and investigate the law of the coefficients in the reduced equation.

2. The roots of the equation $x^3 - px^2 + qx - r = 0$ being α, β, γ , transform this equation into one whose roots are

$$\frac{1}{\beta + \gamma}, \frac{1}{\gamma + \alpha}, \frac{1}{\alpha + \beta}$$

3. Investigate the formula which determines the amount of an annuity, left unpaid for n years, and on each sum of which stated simple interest is allowed.

4. Assets amounting to £3,000 are required to be divided in proportional shares between three creditors, X, Y, Z, the sum due to Y being three times the sum due to X, and the sum due to Z as large as those due to X and Y together.

5. Find the sum of 10 terms of the series 3, 6, 12, 24, &c.

6. Prove the formula for the spherical excess

$$\sin \frac{1}{2} E = \frac{\sqrt{\sin \frac{1}{2} a \sin \frac{1}{2} (a-b) \sin \frac{1}{2} (b-c) \sin \frac{1}{2} (a-c)}}{2 \cos \frac{1}{2} a \cos \frac{1}{2} b \cos \frac{1}{2} c}$$

7. If 11 white and 10 black balls be thrown into a bag, calculate the probability that a person will draw out first a white and then a black ball.

8. If

$$U = A_0 + A_1 x + A_2 x^2 + A_3 x^3 + \dots + A_n x^n,$$

show that, in general,

$$P(xD_x)U = P(0)A_0 + P(1)A_1 x + P(2)A_2 x^2 + \dots + P(n)A_n x^n.$$

9. Eliminate the arbitrary functions from

$$z = x\phi(x) + y\psi(y),$$

and state the geometric interpretation of this equation.

10. Investigate the general value of the radius of curvature for the hypocycloid

$$x^2 + y^2 = a^2$$

1st October, 1835, 2 o'clock, p.m.

MATHEMATICS.—*Examiner, Rev. Robert Carmichael, A.M., F.T.C.D.*

1. If a body revolve in a circle under the action of a force directed to a point in the circumference, investigate by Newton's method the law of force.

2. If a body revolve in a spiral, which cuts all the radii at a constant angle, investigate the law of force.

3. If two tangents be drawn to an ellipse, show that any third tangent produced to meet the chord of contact of the first two, is divided harmonically.

4. If through two points on a sphere (M, N) two small circles be described, and from any point O on MN produced, as are be drawn intersecting the circles in the points A, A', B, B', prove that the points of bisection of the arcs OA, OA', OB, OB' are in spherical involution.

5. Prove that for the surface whose equation, referred to polar co-ordinates, is

$$\phi(r)/r + \theta\psi(\theta) = 1,$$

the tangent of the angle of inclination of any spherical curve to the meridional plane is proportional to the sine of the angle made by the radius vector with the axis.

6. Given any number of points in space, $p, p', p'', \&c.$, investigate completely the nature of the locus of a point o , such that

$$m(po)^2 + m'(p'o)^2 + m''(p''o)^2 + \&c. = \text{const.}$$

7. Investigate the condition required in order that two conics

$$Ax^2 + Bxy + Cy^2 + Dx + Ey + F = 0$$

$$ax^2 + bxy + cy^2 + dx + ey + f = 0$$

may be similar, although not similarly placed.

8. Determine completely by spherical trigonometry the time of year in a given latitude when twilight is shortest.

9. Given duration of twilight and time of sunrise, find latitude of place and declination of sun.

10. Integrate the differential equation

$$D^2y + ax^m y = bx^n.$$

11. Integrate the differential equation

$$D^2y + my = \cos. \text{ ar.}$$

12. Evaluate $\int \frac{dx}{\sin x \cos x}$.

26th September, 1855, 9 o'clock, a.m.

PHYSICS.—*Examiner, G. Johnstone Stoney, A.M.*

1. Statical electricity is confined to the surface of conductors; this is not the case with current electricity. How are both statements proved?

2. What causes the motion of the ponderable matter when two movable conductors are charged with statical electricity?

3. Bring an excited tube near some light conductors and non-conductors; the conductors are attracted and then repelled, the non-conductors are permanently attracted. Point out the cause of the difference of action.

4. Trace the chemical reactions in Daniell's battery, and show from them that the current will be constant if the supply of crystals be kept up.

5. Point out the causes of the rapid decrease in intensity which takes place in the copper and zinc battery.

6. Describe reactions which are consistent with our present knowledge, and which explain what takes place when the double cyanide of silver and potassium is submitted to electrolysis, the positive electrode being of silver?

7. By what experiments may the conductivity of a metal for current electricity be determined?

8. If two points in the course of a current be connected by an iron wire 1,000 feet long and $\frac{1}{2}$ of an inch in thickness, and also by one foot of a copper wire $\frac{1}{16}$ inch thick, in what proportion will the current be divided between them?

N.B.—Coefficient of conductivity of iron = 6.

Do. of copper = 38.

9. When the power of magnets is determined by the vibrations of horizontal needles, what two circumstances complicate the analysis of the results?

10. Enumerate the causes which have hitherto made it impossible to estimate or correct the influence of the iron of a ship on her magnets.

11. Show from the magneto-electric currents generated that a heavy copper ring will damp the vibrations of a compass needle.

12. (a) From what experiments do we know that induction always accompanies the attraction of iron by a magnet?

(b) How do we know that magnetism is a molecular property of the masses of matter in which it exists?

26th September, 1855, 9 o'clock, a.m.

MIXED MATHEMATICS.—*Examiner, G. Johnstone Stoney, A.M.*

1. Prove that couples can be compounded.

2. Deduce from mechanical considerations the differential equation of the common catenary.

3. a. Prove the equable description of areas under the influence of a central force.
 b. Prove the expression for a central force $P = h^2 u^2 \left(u + \frac{d^2 u}{d\theta^2} \right)$.
4. Prove the equation $\frac{d^2 \theta}{dt^2} = \frac{\Sigma P \rho}{\int r^2 dm}$ for the motion of a rigid body round a fixed axis.
5. If the origin of co-ordinates move according to a given law, investigate the equations for the relative motion of a free particle subjected to given forces.
6. Show that with a central force varying directly as the distance the periodic time will be independent of the size of the orbit.
7. Prove that the small vibrations of a pendulum will be isochronous.
8. One end of a uniform plank rests upon the ground, the other is supported by a string of given length from a hook at a known distance above the ground, given the length of the plank and the coefficient of friction between it and the ground, determine the limiting position of equilibrium.
9. A particle is dropped in a medium resisting as the square of the velocity, find its limiting velocity.
10. If the orbit be a circle, and the attraction directed to a point in its circumference, what is the law of force?
11. Show that the normal component of the forces acting on a free particle is $\frac{v^2}{\rho}$, where ρ is the radius of curvature of its path.
12. What is the ratio of the numbers representing the mass of a body, and its weight in pounds? and how are the units determined to which velocity, mass, accelerating force, and impressed force are respectively referred?

20th September, 1885, 2 o'clock, p.m.

MIXED MATHEMATICS.—*Examiner, G. Johnstone Stoney, A.M.*

1. Give an outline of the method by which the horizontal parallax of the sun has been deduced from observations on transits of Venus.
2. Show that, neglecting the masses of the planets as small in comparison with the mass of the sun, Kepler's third law (that the squares of the periodic times are as the cubes of the mean distances) follows from the theory of gravitation.
3. Prove that the expression for the mean anomaly in terms of the eccentric anomaly, is $wt - \pi - e \sin \alpha$.
4. m Voltaic cells may be arranged in a battery of n elements, each element consisting of m cells coupled together so as to act as one cell. Given the total number of cells, and the external resistance to be overcome, find m and n so that the current may be a maximum, and show that the internal and external resistances will then be equal if the given number of cells admit of such an arrangement.
5. Prove that if a telescope be adjusted, so that each emergent beam is a parallel beam, the magnifying power will be equal to the ratio of the diameter of the object-lens to the diameter of its image formed by the eye-piece.
6. Prove that the radius of the least circle of chromatic aberration of a lens $= \frac{\pi}{4} A$, where A is the aperture of the lens and π its dispersive power.
7. If δ be the minimum deviation of a ray passing through a prism whose refracting angle is ϵ , prove that the index of refraction $= \frac{\sin \frac{\delta + \epsilon}{2}}{\sin \frac{\epsilon}{2}}$.
8. a. Investigate the formula which determines the focus to which a pencil of rays converge which are incident nearly perpendicularly on a concave spherical mirror.
 b. Show that such a mirror may be used either as a magnifier of near objects, or as the object mirror of a telescope.
9. Show that it is essential to the equilibrium of a fluid that the density should be constant in each couche de niveau.
10. If a cubic inch of iron be thrown into a vessel containing mercury and water, how much of its weight will be buoyed up by the water?
11. If a cylindrical bottle a foot high, and with a very narrow neck, be partially filled with water, and then gently inverted, a little of the water will flow out, but the rest will be retained by the pressure of the atmosphere; supposing that the bottle is then found to be half full of water, how much has flowed out?
12. Find the law which would connect the density of an atmosphere of uniform temperature with the distance above the surface of the earth under each of the following suppositions:—
 a. That gravity is constant throughout.
 b. That it decreases inversely as the square of the distance from the centre of the earth.

26th September, 1865, 2 o'clock, p.m.

PHYSICS.—*Examiner, G. Johnstone Stoney, A.M.*

1. Describe experiments proper to determine the index of refraction, and the dispersive power of a specimen of glass.
2. Light from a luminous point passes through a narrow slit, and falls upon a screen. Show, on the wave hypothesis, that the central stripe will be dark or bright according to the distance between the slit and screen.
3. A wedge of calc spar cannot be achromatized by a wedge of glass. Why?
4. In what direction should a crystal be slit to exhibit the rings in polarized light? give the account according to the wave theory of the rings and brushes seen in the section of a crystal with one optic axis.
5. From what observations and experiments do we know the velocity of light?
6. Give an outline of the explanation of the rainbow, omitting the mathematical details.
7. What occasions the fringes often seen along the inner edge of the rainbow?
8. From what observations do we know that the human eye is not achromatic? and why does this defect not derange our vision?
9. How may the field of view and magnifying power of a telescope be determined?
10. If a bladder, which is three-fourths full of air at the freezing temperature, and when the barometer shows a pressure of 15 lbs. per square inch, be heated to the temperature of boiling water, with what pressure per square inch will it be then distended, the coefficient of expansion of air being 0.00367?
11. Describe the method of mixtures, and the precautions necessary in employing it.
12. Give the accounts according to the wave and emissive theories of the colours of thin films.

27th September, 1865, 9 o'clock, a.m.

CHEMISTRY AND CHEMICAL PHYSICS.—*Examiner, John Blyth, M.D.*

1. What is the composition in equivalents and in volumes of carbonic oxide? Give in symbols its preparation from ferrocyanide of potassium.
2. Give the composition in volumes, and the combining measure, of dinitrogen; calculate its specific gravity.

Sp. gr. of N = 0.9713.

Do. of O = 1.1056.

3. Give the formulæ and the specific gravity of the different hydrates of sulphuric acid, and explain the reactions which take place in preparing the Nordhausen acid.
4. What is the rule for judging of the neutrality of an oxyant, on the supposition that it is composed of a metallic oxide and an acid. Give in symbols according to this theory the general formulæ of a neutral and of a basic salt, formed by a protoxide, and by a sesquioxide, with a monobasic, dibasic, and tribasic acid.
5. Explain the Binary theory of salts.
6. Explain the difference between constitutional water and water of crystallization.
7. In what manner has it been shown that many basic salts can be regarded as neutral; exemplify this in the basic sulphate of copper ($4 \text{ Cu O}, 8 \text{ O}_2 + 5 \text{ H}_2 \text{ O}$).
8. Mention the metals of the magnesian family. Give the reason why the solution of their neutral salts is only partially precipitated by ammonia.
9. How is commercial bleaching powder prepared? What is its constitution? What would be the effect of elevating the temperature during its preparation?
10. How much P b O $\cdot$ A + 3HO, and N a O S O $_2$ + 16HO, are to be employed to produce 10 lbs. of N a O A + 6HO?

P b = 103.7

N a = 23.

C = 6.

O = 8.

S = 16.

H = 1.

11. Give the empirical and rational formulæ for acetate of oxide of methyl, and formiate of oxide of ethyl. To what generic class do such compounds belong which have this similarity in composition?
12. Explain the nature of a compound radical.
13. What are Liebig's views of ferrocyanide and ferricyanide of potassium? Show in symbols the reactions which take place between the first of these and a persalt of iron, and between the last and a protosalt of iron.
14. State shortly the doctrine of substitution; explain the difference between a chemical and a mechanical type; show that acetic and chloroacetic acids belong to the same chemical type.
15. The compound ammonias are arranged under three heads according as one, two, or three equivalents of H are replaced by a compound radical; give the names and the general formulæ of these three classes. State the mode of preparing them, their general properties, and the points in which the ammonium groups differ from the others.

27th September, 1855. 2 o'clock, p.m.

CHEMISTRY AND CHEMICAL PHYSICS.—*Examiner, John Blyth, M.D.*

HEAT.

1. What is observed in the rate of expansion of gases as compared to solids and fluids? Calculate the volume which 10 cubic inches of air at 75° F. occupy, when reduced to the temperature of 60° F.

N.B.—Air expands $\frac{1}{273}$ of its volume at 32° for 1° F.

2. Define the term specific heat, and state the different modes of estimating it.
3. Under what circumstances does heat become latent, and is again evolved?
4. One pound of steam at 212° is passed into five pounds of ice at 32° , what will be the temperature of the mixture?

Latent heat of steam, = 967°
Do. of water, = 142°

5. Explain why there would be no economy in substituting other liquids for water as materials for generating vapour in the steam engine, although the latent heat of such vapour may be less than that of steam.

6. What relation has been found to exist between the specific heat and chemical equivalents of bodies?

7. The same weight of steam at 212° and 250° is passed into the same quantity of water, what is the result? State Watt's law with regard to the heating effects of steam at different temperatures, and the correction of it made by Regnault.

8. Liquids give off vapour from their surface at temperatures below their point of ebullition; in what manner is this ascertained, and a numerical value given to the amount of evaporation for different temperatures?

9. What is the point of maximum density of a vapour? How do pressure and cold act in reducing a vapour to the liquid form.

10. Calculate the weight of aqueous vapour contained in a cubic foot (=1728 c. in.) of air at 70° F., from the following data:—

Dew point, 60° F.

Weight of 100 cubic inches of aqueous vapour at 60° = 0.838 grains

Expansion of air for 1° F. = $\frac{1}{273}$ of its volume at 32°.

FERTILITY.

1. Explain Faraday's theory of electrical induction.
2. Explain the construction and mode of using the unit jar for measuring out definite quantities of electricity.
3. Describe the mode of ascertaining the force of attraction between two charged surfaces.
4. Ten units of electricity are distributed over three perfectly equal and similar Leyden jars; what is the attractive force in each jar compared with that of one of the same jars charged with the whole quantity of electricity?
5. What is the most indispensable condition of electrolysis?
6. Acetate of lead is decomposed by a galvanic current between platinum plates, metallic lead being deposited at the negative pole, and biniodide of lead at the positive; in what respect does this decomposition differ from the electrolysis of water?
7. The energy of a voltaic current is proportionate to the chemical action; give the reason why common zinc, which is much more readily acted on than amalgamated zinc by dilute sulphuric acid, does not contribute so much to the energy of the current as the latter.
8. Calculate the number of cubic inches of H which would be produced by decomposing water by a voltaic current from a compound battery, in each cell of which 32.6 grains of zinc are dissolved.

N.B.—100 grains of H₂ at 60° F. and 30° B., weigh 2.14 grains.

CRYSTALLOGRAPHY.

1. What are the simple and compound forms of a crystalline system?
2. In what manner must the secondary planes cut the axes of the regular octahedron, so as to produce by development the rhombic dodecahedron?
3. What is the compound form of the regular system, the notation of the face of whose dominant form is, . . . $a : a : a$; and of the modifying faces, . . . $a : \infty a : \infty a$
 $a : a : \infty a$
4. There are two octahedrons in the square prismatic system; give the notation of their respective faces. Why does the regular system contain only one octahedron?
5. Define the relations of the principal and secondary axes of the rhombohedral system. What is its most characteristic hemihedral form?
6. In the rhombohedral system how are the two classes of hexagonal dodecahedrons distinguished by the position of the secondary axes? Give the notation of the faces in each case.

28th September, 1855, 9 o'clock, a.m.

ZOOLOGY.—*Examiner, Dr. Melville.*

1. Give an account of the mechanism of respiration in the *Vertebrata*.
2. Contrast the phases of the development of the brain in man with the forms of that organ in the lower *Vertebrata*.
3. Describe the phenomena connected with the so-called alternate generation in the *Medusa*.
4. Re-arrange the *Radiata* of Cuvier according to recent anatomical and physiological researches.
5. Contrast the *Fauna* of the Southern Continents.

BOTANY.

1. Describe the various modes of origin of the pistil.
2. Describe the development of the embryo in *Coniferae*.
3. Give a sketch of the function of nutrition in plants.
4. Refer the plants on the table to their respective natural orders, and describe them in technical terms.
5. Give a sketch of the laws regulating the distribution of vegetables.

28th September, 1855, 2 o'clock, p.m.

GEOLOGY AND PHYSICAL GEOGRAPHY.—*Examiner, J. Beete Jukes, M.A., F.R.S.*

1. Describe in general terms the external characters and chemical composition of the following minerals:—Quartz, common feldspar, mica, hornblende, augite, olivine.
2. To what class of rocks should you refer those called "trachyte," "dolerite," "domite," and "clinkstone," and what is the general composition of each of them?
3. Define the terms "dip," "fault," "contortion," "anticlinal, and synclinal lies," "joins" and "cleavage."
4. In four different localities I met with the following groups of fossils, (a), (b), (c), (d). To what formation should you refer each of these groups?

- a. *Ananchytes ovatus*,
Terebratula carnea,
Imocramus Cuvieri,
Lima spinosa,
Belemnites mucronata.
- b. *Pentacrinus basaltiformis*,
Gryphina incurva,
Belemnites acutus and *penicillatus*,
Ammonites bifrons, *communis* and *heterophyllus*.
- c. *Calamites Suckowii*,
Lepidodendron elegans,
Neuropteris acuminata,
Stigmaria ficoides.
- d. *Actinocrinus triacanthactylus*,
Platycrinus granulatus,
Pentamerites ellipticus,
Chonetes (productus) comoides,
Productus concinnus,
Spirifer cuspidatus and *Sowerbyi*,
Actinoceras (orthoceras) giganteum.

5. What genus of zoophyte is that which is peculiarly characteristic of, and absolutely confined to, Silurian rocks.
6. In what formations do the following fossil genera occur respectively, and what are their most obvious relations to living animals: labyrinthodon, plesiosaurus, iguanodon, mososaurus, paleotherium, mylodon.
7. Give a brief account of Darwin's classification of coral reefs and of his theory of their formation.
8. Where are situated the rainless districts of the world, and what are the reasons of the absence of rain in those districts?
9. What is the approximate geological date of the elevation of the higher mountains of the British Islands—namely, the Grampians, the Cumberland, the Welsh, and the Wicklow Mountains, also of the Alps, and of the Himalayas?

29th September, 1855, 9 o'clock, a.m.

LOGIC.—*Examiner, Rev. James M'Cook, LL.D.*

1. Give a brief historical and critical account of the theory of the Conceptualists as to the formation of general notions and common terms. Mention any errors or defects which you may have noticed in their views.
2. What are the objections urged (not in former times but) in the present day against the syllogistic analysis of reasoning? Can they be met; and if so, in what way?

3. To the proposed plan of appointing young men to public offices by examination, it is objected that some of them may not turn out good men of business; and it is argued that it is, therefore, better to keep to the old plan of patronage. Point out the fallacy in the above.

4. Metaphysicians have laid down the maxim that whatever is inconceivable must be false, and hence conclude that there can be no event without a cause. Mr. Mill replies, that it was at one time thought to be inconceivable that there should be antipodes—that is, persons with their heads in the same direction as our feet. Put the above in the correct form, and examine it logically.

5. A distinction has been drawn between contingent and necessary truth. What is the nature of this distinction, and on what does it rest? Is there really such a distinction?

6. What is the meaning of the phrases *a priori* and *a posteriori*? What is the difference between the *a priori* and *a posteriori* methods of investigation? Do you reckon the *a priori* method allowable in any department; and if so, under what conditions?

7. Are mathematics founded on *a priori* principles? In answering this question you are expected to state and discuss the opinions which have been entertained as to the nature of definitions and axioms, and their claims to be regarded as the foundation of mathematics.

8. For what reasons would you argue that it is necessary to proceed in the way of induction in the scientific investigation of the material universe? Is it necessary to proceed in the same way in the investigation of the human mind? Discuss the question which has been started as to whether we may expect more from induction or deduction in the future history of science.

9. What is to be understood by the phrase "laws of nature" as used in physical science? Comment upon the statement of Bacon about axioms, causes, and forms, and upon the distinction drawn between the discovery of classes and causes.

10. What is meant by the explanation of a phenomenon?—what by the explanation of a law? Can hypotheses be altogether discarded in scientific investigation? If not, under what conditions are they to be used, and how tested?

29th September, 1855, 2 o'clock, p.m.

METAPHYSICS.—Examiner, Rev. James McCosh, LL.D.

1. Give a psychological account of the phenomena of habit, mentioning its peculiarities and pointing out the mental laws to which these are to be referred.

2. As an exercise in psychological analysis give what we may conceive to have been the thoughts and feelings of Adam and Eve on being driven out of Eden, and refer them to their appropriate mental powers according to any classification of the faculties which may seem to you the preferable:

The world was all before them, where to choose
Their place of rest, and Providence their guide,
They, hand in hand, with wandering steps and slow,
Through Eden took their solitary way.

3. What is the difference between Beauty and Sublimity, between Wit and Humour?

4. Name the principal works of Leibnitz, sketch his philosophic character, and illustrate it by his theory of optimism.

5. Give a brief account of the ideal system of Berkeley, and say whether Hume drove it to its legitimate consequences, and whether Reid properly apprehended it and sapped its foundations.

6. In what consequences does the Speculative Reason land us according to Kant? How did he save himself from these consequences? Was he successful in this?

7. What is the nature of the argument from Common Sense? When are we entitled to appeal to the principles of common sense? What are the marks or criteria of these principles?

8. What is the difference, according to Brown, between Simple and Relative Suggestion? What objections may be taken to the use of these phrases, and to the view which they give us of the mental facts which they are intended to express? How does Brown classify the relations which the mind can discover?

9. It is a common opinion among metaphysicians that the idea of, and belief in, causation does not proceed from experience: give the arguments by which they support their views, and sketch the various forms assumed by the *a priori* theory on this subject.

10. What is Locke's account of the nature and origin of the idea of the infinite? State in contradistinction the view of Condorcet. Comment upon the general subject.

1st October, 1855, 9 o'clock, a.m.

JURISPRUDENCE.—Examiner, T. E. Cliffe Leslie, LL.B.

1. (a.) How would you distinguish the questions relating to poor laws, which are peculiar to jurisprudence, from those with which political economy is concerned?

(b.) What are the principal arguments in favour of taxation for the relief of destitution?

(c.) When was the labour test first introduced into English legislation respecting mendicancy?

2. Tribunals, it is said, were not originally established to determine rights. Explain this observation, and also that of Savigny, that the criminal makes earlier and greater progress than the civil law.

3. Do you consider civil procedure and criminal law as parts of public or of private law?
4. Lord Bacon shows that laws may be retrospective in their operation, although in terms relative only to future transactions.
5. State briefly the principal arguments in favour of and against the custom of primogeniture, as it exists in England.
6. Explain the principles of the change which has taken place in modern times in the policy of the laws relative to debtors and bankrupts.
7. Explain the origin and policy of the usury laws, and the considerations which led to their abolition in England.
8. (a.) Are there any kinds of business which partnerships, with limited liability, are peculiarly unfit to carry on successfully?
(b.) Should the law provide for such cases or not, and by what principle should its interference or non-interference be governed?
9. What are the arguments in favour of having, in certain localities, different courts of concurrent jurisdiction?
10. What are the arguments against the establishment of different courts of peculiar and exclusive jurisdiction?
11. Are there any subjects, independent of those specified by Bentham, the jurisdiction over which is properly assigned to particular courts?
12. State briefly the principles by which proceedings in courts of appeal should be regulated.

1st October, 1855, 2 o'clock, p.m.

POLITICAL ECONOMY.—*Examiner, T. E. Cliffe Leslie, LL.B.*

1. The excellence of Egyptian and Indian art in ancient times has been attributed to the institution of castes.
(a.) To what causes does Adam Smith refer the early improvement of Egypt and India?
(b.) Can you show that the institution of castes really tended to secure a considerable industrial advantage?
(c.) Without any artificial classification of employment, the advantage just referred to has been much more fully obtained in Great Britain?
2. "The invention of fire-arms is certainly favourable both to the permanency and extension of civilization" (*Wealth of Nations*, Book V., chap. 1). Upon what grounds does Adam Smith make this observation?
3. If all the glass in the houses of Dublin were destroyed by a storm, how much of the price of replacing it, if any, would be clear gain to glaziers, &c.? and how much would be a loss to the householders, without any equivalent gain to others?
4. What change in the price of *slena* would be likely to follow a considerable and permanent fall in the price of *raw cotton*, no change taking place at the same time in the cost of growing *flax*?
5. The amount of stock in the public funds, held by Irishmen, has been referred to as a proof that there is no want of capital in Ireland.
(a.) Is stock in the funds capital?
(b.) If not, is the argument valid?
6. What effect is each of the following circumstances calculated to have upon the price of the 3 per cent. consols, and why:—
(a.) A bad harvest?
(b.) A government loan?
(c.) A sensible fall in the value of gold?
(d.) The payment of the public dividends?
7. Explain the principle of Mr. Pitt's sinking fund, and point out its defects.
8. The last government loan was effected by the Chancellor of the Exchequer, on the following terms:—For every £100 advanced, he agreed to give £100 stock, in the 3 per cent., with an annuity of 14s. 6d. for thirty years.
(a.) Why was this annuity added to the stock?
(b.) State the advantages and disadvantages of borrowing on terminable annuities.
9. "A bounty upon the exportation of corn, as well as every other bounty upon exportation, imposes two distinct taxes upon the people."—*Wealth of Nations*, Book IV., chap. 5.
(a.) Is this true of a bounty on the exportation of corn? and if so, why?
(b.) Is it true of every other bounty on exportation?
10. "The quotation of gold at Paris is about at par (according to the last tariff), which at the English mint price of standard gold, gives an exchange of 25·17; and the exchange at Paris on London at short being 25·12½; it follows that gold is about 0·18 per cent. dearer in Paris than in London."—*Economist*, September 15. Explain, in general terms, the meaning of the words in italics, and the reasoning by which the conclusion was deduced, that gold was dearer in Paris than in London.
11. Explain briefly the causes which determine the natural amount of the currency.
12. (a.) How were the issues of the Bank of England regulated during the suspension of cash payments?
(b.) How, from 1819 until 1844?
(c.) How have they been regulated since 1844?

EXAMINATION FOR THE DEGREE OF M.D.

18th September, 1855, 9 o'clock, a.m.

Examiner, Doctor Gordon.

1. What are the symptoms, anatomical characters, and proper treatment of acute inflammation of the peritoneum?
2. What are the symptoms and general anatomical characters of chronic inflammation of the peritoneum?
3. Is either acute or chronic inflammation of the peritoneum often found as an idiopathic disease? Under what circumstances are they respectively most usually encountered.
4. What are the organic lesions of the peritoneum, independent of acute or chronic inflammation?
5. What are the diseases with which acute peritonitis may be confounded, and what are the chief diagnostic phenomena?
6. What are the symptoms which should induce an unfavourable prognosis in a case of meninges; and how would you treat those symptoms?
7. What are the symptoms of *laryngitis oedematosa*? Describe its anatomical characters, diagnosis, and treatment.
8. Write prescriptions in Latin, without any abbreviations, for the administration of quinine in intermittent fever, and of hydrocyanic acid in the paroxysmal cough of phthisis.

18th September 1855, 2 o'clock, p.m.

SURGERY.—*Examiner, Christopher Fleming, M.D., F.R.C.S.I., M.R.I.A.*

1. Under what conditions of wounds are sutures required? State the several varieties in use, and the necessary precautions when they are employed.
2. What are the characteristic distinctions between acute and chronic abscesses; and what is the treatment suited to each?
3. Specify the dangers incidental on injuries of joints; and describe those cases in which immediate amputation is demanded, and those in which delay is justifiable.
4. In Sir Astley Cooper's work on diseases of the breast, what classification of these diseases has he adopted, and what diseases has he described?
5. Note those cases of schirrhous tumours of the breast, in which the removal of the organ is admissible, and those in which it is not.

19th September, 1855, 9 o'clock, a.m.

MODERN LANGUAGES.—*Examiner, Professor Frings, PH.D.*

FRENCH.—I.

Translate into French:—

In the spring of 1837, a woman, aged about forty, was admitted at an early period of fever. She presented the symptoms of an ordinary and rather mild case of maculated typhus. She had attended a person who died of peculiarly malignant fever, and also washed the clothes of the patient; and, from the first, had a presentiment of death which nothing could shake. She gradually became more collapsed; the surface was of a violet hue, the countenance sunken, and the skin and breath cold. From the commencement of the second week, although the heart's impulse was strong, and the sounds remarkably distinct, no pulse could be perceived at the wrist. In this condition she remained for many days, during which time every possible stimulating treatment was resorted to. On the fifteenth day the surface was icy cold, but the heart continued to act with vigour; and as we could find no evidence of organic disease in any of the cavities, I determined to attempt the transfusion of blood. About six ounces of recently-drawn blood were injected into the median basilic vein; a slight re-action followed. The pulse, however, did not return; and she died on the eighteenth day of the disease.

DR. STOKES—*Diseases of the Heart and Aorta.*

II.

Translate:—

Une jeune fille âgée de dix-huit ans, domestique, alla plusieurs fois, sept jours avant de tomber malade, dans la chambre d'une personne qui avait la petite vérole; elle n'a point été vaccinée. Entrée à l'hôpital le 8 août, elle avait commencé à éprouver le 30 juillet, un malaise général et de l'anorexie. Le 1^{er} août elle eut des étourdissements, des nausées, et elle vomit. Le 2 août, mêmes accidents; maux de reins; elle s'alite. Le 3, elle n'a plus ni vomissements, ni nausées, mais elle est accablée et elle ne se lève pas. Dans la matinée du 4 août, on s'aperçoit que la figure est couverte de boutons. L'éruption se développe jusqu'au 10 août, époque à laquelle nous examinons la malade. Elle est alors parvenue au septième jour plein de l'éruption.

Toute la peau est couverte de nombreuses pustules qui constituent partout une éruption des plus confluentes; ces pustules sont blanches, aplaties, plusieurs ombilicées. La malade n'accuse d'autre douleur qu'une cuisson générale de la peau. Il n'y a plus de céphalalgie. La langue est couverte d'un enduit jaunâtre. Le ventre est souple et indolent; il n'y a pas eu de selles depuis trois jours.

ANDRAL—*Clinique Médicale.*

III.

On a généralement observé que dans l'espèce humaine, les individus féminels sont plus gras que les individus mâles : c'est que les femmes ont chez nous des habitudes casanières et sédentaires qui permettent l'accumulation de la graisse, tandis que les hommes, appelés, par leur genre de vie tout extérieur, à faire plus d'exercice physique et moral, font par cela même une plus grande dépense de matériaux nutritifs. Peut-être y a-t-il aussi, indépendamment du genre de vie, quelque cause organique qui dispose le sexe féminin à l'embonpoint. Vous aurez pu remarquer, par exemple, que, parmi les volailles qu'on engraisse, les mâles réussissent moins bien que les femelles, ce qui ne peut dépendre, comme dans le cas précédent, des différences dans l'activité des uns et des autres.

Il est impossible de méconnaître un rapport notable entre le tempérament et la disposition à l'embonpoint. Je ne doute pas que vous n'ayez tous été frappés de la sécheresse des chairs, et de la maigreur de la plupart des sujets bilieux. Vous aurez remarqué, au contraire, que les individus sanguins s'engraissent facilement à cette époque de la vie qu'on nomme l'âge mûr et où l'accroissement est terminé depuis un peu de temps. Les sujets lymphatiques ont la même disposition lors toutefois que leur tempérament n'est pas exagéré.

DECRETAY DE BLAINVILLE—*Cours de Physiologie.*

GERMAN.—I.

Translate into German :—

Those severe wounds of the extremities, inflicted by shot and shells, are not only accompanied with injury to the muscles, the blood-vessels, and nerves, but it is by the extreme violence done to the bones that such wounds are more peculiarly distinguished. Very extensive breaches in the muscles of a limb, from a gun-shot wound, are often speedily repaired under the most simple treatment; but when such a wound is complicated with injury of the principal blood-vessels and nerves, the case becomes peculiarly hazardous, even independently of the hæmorrhage. Although this may be successfully controlled in the first instance, yet we know from experience that gunshot wounds which injure the main artery of a limb are very frequently followed by gangrene, probably from the neighbouring veins and nerve being involved in the injury; and perhaps also from the swelling and tension, consequent upon the wound, impeding the passage of the blood through the anastomosing vessels to the lower part of the limb.

BALLINGALL—*Military Surgery.*

II.

Translate :—

Seitdem es thatsch ist, daß die Galle nicht im Blut, sondern in der Leber gelagert wird,—seitdem es jetzt thatsch ist, daß der größte Theil der in den Darmtrakt ergossenen Galle aus Leibern in die Guttergänge verfließt,—seitdem hat die wichtigste Bemerkung, daß die Galle eine Durchgangsstufe ist, von welcher aus gewisse Bestandtheile des Körpers leichter in Auflösung und Wasser zerfallen, so viel Licht bekommen, wie jeder Forscher sich wünscht, der irgend eine Ansicht durch Versuche prüfen will.

Denn wirklich die Galle in dem höchsten Verhältnisse steht zu den Hauptbestandtheilen der atmosphärischen Luft, kann man nicht übersehen. Denn bei jeder Gallenbildung entsteht, für gleichen Körpergewicht in gleichen Schmelzpunkten weitaus reichlichere Ausdehnung als sie im unzerlegten Zustand haben. Es ist mir gelungen, feststellen, daß die Leber weitaus mehr und tiefer als irgend ein andrer Theil zu zerfallen. Die Leber, mit denen ich die Versuche vornahm, zerfielen in einem Glase mit warmem Wasser, in welchem ein großer, doppelt durchbohrter Kolb mittelst eines geschützten Stängels von Zinkblech und gelbem Wachs festhält eingetaucht war.

MOLSCHEWITZ—*Versuche zur Bestimmung der Rolle, welche Leber und Milz bei der Rückbildung spielen.*

III.

The principal stages of the growth of the body, from the first stage of the egg, to the first stage of the embryo, are as follows:—

Die wichtigste Stufen von der Keimbahn der Galle nicht zufällig, sondern der Art, welche sie sowohl bei geistlichen als bei weltlichen am meisten zu betonen kommt.

Die wichtigste ist die, die sie bei der so häufig vorkommenden Verschlingung von Vergiftung! Sie wird nicht nur, aber auch, wenn man einen Versuch davon anstellen will, daß, er entsteht sich mehrere Stunden nachweisbar ist ununterbrochen; er hat den charakteristischen, durch sein Licht zu kennzeichnen, charakteristischen sehr klaren Beschaffenheit; der Beschaffenheit ist nicht, was auch immer es eine ununterbrochene, innerliche Galle, einen ununterbrochenden Durchlauf. Die äußere Galle, welche das ist, was, was sich durch sein Licht, durch seine natürliche Galle, durch sein Licht erkennen; in jedem Versuch, es ist nicht nur, sondern es ist ein großer, doppelt durchbohrter Kolb mittelst eines geschützten Stängels von Zinkblech und gelbem Wachs festhält eingetaucht war.

GMEIN—*Pflanzengifte.*

ITALIAN.—I.

Translate into Italian :—

I cannot leave this great and good country without expressing my sense of its pre-eminence of character among the natives of the earth. A more benevolent people I have never known, nor greater warmth and devotedness in their select friendships. Their

kindness to strangers is unparalleled; and the hospitality of Paris is beyond any thing I had conceived to be practicable in a large city. Their eminence, too, in science, the communicative dispositions of their scientific men, the politeness of the general manners, the ease and vivacity of their conversation, give a charm to their society to be found nowhere else.

JERFESSON'S *Opinion of the French People*.

II.

Translate:—

Venne l'assegnato giorno, 'o Pippo andò alla casa del pittore, accompagnato da una mascherata di stoffiori, vestito che pareva un Duca. Il pittore gli fece gentilissima accoglienza; Pippo gli fu grato, lo commendò della sua gran fama, tasse fuori un orinolo d'oro, lo fe' suonare per saper, diceva, a qual' ora si cominciava il ritratto; e nell'atteggiamento dello dita scoporse, ch' esso erano fornito di splendidissime anella, e si pose a sedere.

Il pittore muoveva gli scudi con la memoria, e tanto più gli pareva di averli in mano, perchè l'originale gli pareva facile ad imitarsi. Avea Pippo un visaccio largo, con certi lineamenti o piuttosto colpi sì fieri, che l'avrebbe quasi ritratto ogni uomo col carbone: bocca larga, labbra grosse, colorito piuttosto paganozzo che verniglio, occhi grandi e celosi, ed uno sperficato nasaccio, verso le ciglia schiacciato e appuntato sopra la bocca.

GOZZI.

III.

Venne la sera, e 'l cielo era più sereno del solito, e i servidori miei dopo cena andarono presto a dormire; a me parve bene di aspettare per vedere come si ponea la luna, la quale credo che fosse settima. Aporta la finestra, che guarda verso occidente, la vidi avanti mezza notte ascendersi dietro il monte di S. Martino con la faccia piena di tenebre e di nubi, e scorta la finestra mi posi sopra il letto; ma dopo di avere un buon pezzo vegliato, cominciando a dormire, mi risvegliò un rumore o un terremoto, il quale non solo aperse le finestre, o sparse il lume, ch' io soglio tenere la notte, ma commosso dai fondamenti la camera, dov'io stava. Essendo dunque in cambio del sonno assalito dal timore della morte vicina, uscì nel chiostro del monasterio, ov' io abito, e mentre tra le tenebre uno cercava l'altro, o non si potea vedere, se non per benefizio di qualche lampo, cominciammo a confortarci l'un l'altro.

PETRARCA—*La Tempesta di Mare*.

19th September, 1855, 3 o'clock, p.m.

MEDICAL JURISPRUDENCE.—*Examiner, Dr. William Barker.*

1. State the poisonous doses of arsenic, opium, hydrocyanic acid, and corrosive sublimate.
2. What are the objections to the use of Marsh's test in discovering the presence of arsenic?
3. What antidotes may be employed in cases of arsenical poisoning?
4. What are the tests for hydrocyanic acid?
5. If you found red stains on a piece of cloth, what mode of examination would you adopt to ascertain if they were caused by blood?
6. Can human blood be distinguished from that of other animals, and by what means?
7. What circumstances would guide you in deciding whether a person had committed suicide by hanging, or was hanged after death?
8. What are the most frequent natural causes of death in new-born infants?
9. Is the proportion of still-born children greater in legitimate or illegitimate births?
10. In cases of asphyxia from poisonous gases, what remedies would you employ?
11. What are the different modes in which poisonous gases may cause death?
12. In cases of death from lightning, what post mortem appearances are generally observed on the dead body?

19th September, 1855, 2 o'clock, p.m.

MATERIA MEDICA AND PHARMACY.—*Examiner, Dr. William Barker.*

1. What principles of classification may be adopted in the arrangement of the Materia Medica?
2. What purely physical agents are employed in the treatment of disease?
3. How is nitric acid prepared? What are the impurities usually found in it, and what are its uses in Pharmacy?
4. Describe the different processes for obtaining calomel, and write in symbols the decompositions which occur during the process.
5. With what substances is iodide of potassium incompatible?
6. Describe the processes for obtaining iodide of potassium, and the changes which take place.
7. How is anhydrous acetic acid prepared?
8. What alkaloids exist in cinchona bark, and how are they separated?
9. How is salicin detected when mixed with sulphate of quinine?

10. From what part of the plant is opium obtained, and what are its principal proximate constituents?

11. Describe the process for obtaining morphia.

12. Name the medicinal substances incompatible with tincture of opium.

13. Name the different pharmaceutical substances placed before you.

14. Write prescriptions containing the following ingredients:—1. Iodide of potassium in a mixture. 2. Tartar emetic, to produce diaphoresis. 3. An expectorant mixture containing the lobelia inflata. 4. Pills containing pulv. opii. 5. Trismutate of bismuth.

6. Corrosive sublimate.

20th September, 1855, 9 o'clock, a.m.

ANATOMY.—*Examiner, J. H. Corbett, M.D.*

1. Describe the relations of the stomach, its coats, vessels, and nerves.

2. Describe the articular surfaces and ligaments of the shoulder joint, and state the relations of the surrounding muscles.

3. Describe the rectus abdominis muscle.

4. Describe the ligaments of the urinary bladder, and the several relations of that organ in the male subject.

5. State the boundaries of the third ventricle of the brain, and mention the parts presenting themselves on opening into the lateral ventricles.

6. Describe the origin, course, and mode of distribution of the middle meningeal artery.

7. Give a description of the pericardium, its structure and disposition, with respect to the vessels passing to and from the heart.

8. What are the connexions and relations of the triangular ligament of the urethra?

9. Describe the parotid gland.

10. Describe the temporal artery.

20th September, 1855, 2 o'clock, p.m.

PHYSIOLOGY.—*Examiner, J. H. Corbett, M.D.*

1. What is the nature and use of the gastric secretion?

2. How is bone primordially developed?

3. State some recent researches as to the use of the pancreatic secretion.

4. What are the peculiarities of the circulation within the head, chest, and abdomen?

5. Mention the different classes of teeth. State the appearance presented on making a vertical section. Describe the anatomical elements of the teeth and their microscopical features.

6. Describe the processes of mastication and deglutition.

7. Mention experiments made in order to determine the function of the portio dura nerve.

8. Describe the structure and action of the iris.

9. Describe the transparent media of the eye, and state the provisions in that organ for correcting or counteracting spherical and chromatic aberrations.

10. What are the physical properties and microscopical characters of the white fibrous tissue?

20th September, 1855, 9 o'clock, a.m.

ANATOMY.—*Examiner, J. H. Corbett, M.D.*

1. Describe the membranes of the brain.

2. Mention the several structures which compose the trachea, and describe the cervical and thoracic relations of that organ.

3. Describe the attachments of the diaphragm, its openings, vessels, and nerves.

4. Describe the pylorus, and the relations of the different portions of the duodenum.

5. Mention the bones which enter into the orbit; enumerate the muscles of the eye, and describe the relative positions of the nerves within the orbital region.

6. Contrast the right and left subclavian arteries; mention the stages and parts in relation with these vessels.

7. Describe the inguinal canal; its commencement, termination, boundaries, and vascular relations.

8. Mention the ligaments, the lobes, and fissures of the liver.

9. How is the spinal marrow protected; and in what manner are the spinal nerves connected with it?

10. What do you observe on opening into the left ventricle of the heart?

11. Describe the physical properties and microscopical characters of the yellow fibrous tissue.

12. Describe the structural anatomy of an artery.

20th September, 1855, 2 o'clock, p.m.

PHYSIOLOGY AND COMPARATIVE ANATOMY.—*Examiner, J. H. Corbett, M.D.*

1. Mention the changes in the state of the blood resulting from respiration.
2. Trace the gastro-pulmonary mucous membrane, and state whether it presents the same features and is subservient to the same offices through its entire extent.
3. State some facts and experiments, in order to prove venous imbibition or absorption.
4. Mention the usual classification of joints, and give an example of each description of articulation.
5. Give an outline of the mode in which the function of respiration is maintained respectively in mammals, birds, reptiles, and fishes.
6. Describe the chief peculiarities of the digestive apparatus in a ruminant animal.
7. Describe the sensible phenomena which attend the action of the heart.
8. Explain the nature of the reflex function performed by the spinal cord and its nerves.
9. Give an explanation of the arterial pulse; mention some observations made with a view to determine its cause; describe the varieties in its condition under different circumstances.
10. State whether the circulation of the blood within the cranium is influenced in any respect by the process of respiration.

21st September, 1855, 9 o'clock, a.m.

CHEMISTRY.—*Examiner, John Blyth, M.D.*

1. Oxygen and protoxide of nitrogen are brilliant supporters of combustion; how may they be distinguished from each other?
2. Give the formula and the mode of preparation of the glacial phosphoric acid.
3. How is phosphorus prepared? Show the mode of converting it into the "amorphous" form, and state its properties under the two forms.
4. Explain the process for the extraction of iodine from kelp.
5. Explain by symbols the preparation of carbonic acid; give its properties, specific gravity, and composition by weight.
6. Explain the law of multiple proportions, and illustrate it by examples.
7. Metallic potassium and sodium are freely exposed to the air for some days; state the changes which they undergo, and in what manner the resulting substances are, by simple inspection, distinguished from each other.
8. Give the process for preparing potassa fusa. State how the salts of potash are best detected in solution.
9. What is meant by "combination by volume?" Illustrate by examples.
10. Explain the processes for preparing calomel, both by precipitation and by sublimation; show the mode of detecting the presence of corrosive sublimate in it.
11. What is the nature of an oxy-salt? State the rule by which its neutrality is estimated. Give examples by symbols, of neutral salts of protoxides, and sesquioxides.
12. How is the magnetic oxide of iron of the Pharmacopœia prepared? Give its formula, and also that of the resulting compound by the same process, when only one half of the iron has been oxidized.
13. HCy , HCl , NO_2 , are in the same solution; how are they detected?
14. Show the mode of analyzing qualitatively, a solution containing the following salts:— Hg_2ONO ,— PbONO ,— BaONO ,— KONO . State the special reactions for the detection of the individual substances.
15. Give the two modes of preparing iodide of potassium; explain the reactions in each case.
16. By what simple process would you distinguish a nitrogenous from a non-nitrogenous substance?
17. Show, in symbols, the products of decomposition by fermentation of grape sugar, ($\text{C}_6\text{H}_{12}\text{O}_6$).
18. What is the specific gravity, and the greatest strength of alcohol prepared by distillation alone from fermented fluids? How is absolute alcohol prepared from this?
19. Give the mode of preparation, the properties, and products of decomposition of absolute hydrocyanic acid.
20. In what manner would you detect diastetic sugar and bile in urine?

21st September, 1855, 2 o'clock, p.m.

NATURAL PHILOSOPHY.—*Examiner, G. Johnstone Stoney, A.M.*

1. If one arm of a lever be half-an-inch and the other five inches, and if, to balance the resistance, a force of 5 lbs. has to be applied at the end of the long arm, what pressure has the fulcrum to sustain?
2. In what way should you investigate the ratio of the forces which balance on a bent lever?
3. How may an inequality in the arms of the beam of a pair of scales be detected, and its magnitude determined, and in what way can you weigh accurately with such scales?

- 4 (a.) What is the pressure per square inch, at a depth of fifty feet beneath the surface of the sea, if a cubic foot of salt water weigh 64 lbs.?
- (b.) Show why a diver would not be crushed though subjected to this pressure.
5. If $\frac{1}{2}$ of a vessel be immersed when floating on water, and $\frac{1}{3}$ when floating on nitric acid, what is the sp. g. of the latter?
6. Why can a man exist in dry air at a temperature so high that it would cause death if the air were charged with moisture?
7. Explain how the same materials which form warm clothing will serve to keep ice cool.
8. Define evaporation and ebullition, and state how the latter may be made to take place at a temperature lower than the boiling point of the liquid.
9. If the mercury in a barometer stand at 29.8, when, if the vacuum were perfect, it should stand at 30 inches, what is the density of the air above the mercury?
10. What arrangements of a thermometer make it a sensitive instrument, and what make it highly impracticable?
11. Describe some experiments which establish a difference between positive and negative electricities.
12. What are the chemical reactions in a voltaic cell of copper and zinc, excited by water acidulated with sulphuric acid?

22nd September, 1885, 9 o'clock, a.m.

ZOOLOGY.—*Examiner, Dr. Melville.*

1. Give a sketch of the homology of the exo-skeleton in the *Crustacea*.
2. State the mode of circulation in *Fishes*, and point out the manner in which it may be converted into that which exists in *Reptiles*.
3. Give a tabular view of the classification of the animal kingdom, the orders included; and state the diagnostic characters of the sub-kingdoms or types.
4. Mention the characteristics of the different sub-types or classes of *Mollusca*, and give an example of each.

BOTANY.

1. Describe the structure of the vegetable cell; give the chemical composition of its principal constituents, and state the various modes of cell-multiplication.
2. Describe the mode of growth of the stem in *Dicotyledons* and *Monocotyledons*; also contrast the structure and mode of development in the woody bundle in each.
3. Give a sketch of the morphological relations of the different organs of a flowering plant.
4. Give a tabular view of the classes and sub-classes of the vegetable kingdom, according to the natural system, with their diagnostic characters.
5. Refer the plants on the table to their respective *Linnean* classes and orders.

HONOR EXAMINATION IN THE FACULTY OF MEDICINE.

23rd September, 1885, 3 o'clock, p.m.

MIDWIFERY, AND DISEASES OF WOMEN AND CHILDREN.—*Examiner, Professor Doherty, M.D.*

1. Describe the changes observable in a bird's egg, which is undergoing incubation, from the appearance of the blastoderm to the formation of the amnion.
2. What is the name of the envelope that surrounds the ovum in mammals external to the amnion; where is it probably formed, and what is its analogue in the egg of a bird? What additional use does this membrane serve in the former, beyond its use in the latter?
3. What is the allantois in the chick: trace the vessels it conducts on its surface; what previously existing circulation do they replace?
4. Is the allantoic circulation of importance in the human embryo?
5. Do the vascular systems of the mother and fetus anastomose in the human species? Prove your opinion.
6. Give some evidence that the fetus in utero derives nourishment from its mother. What is the peculiar apparatus, described by Goodsir, which exists in the placenta, for the elimination and transmission of nutrient particles, and for the depuration of the fetal blood?
7. By what experiments has Schwann proved that oxygenation of its blood is essential to the development of the chick:—is the presence of oxygen necessary at all stages of incubation?
8. A case is given by Wagner (*Dr. and For. Rev.* vol. 5), wherein the human fetus, immediately after birth, was buried under a foot of earth, where it lay for fully a quarter of an hour, and yet, on being exhumed, revived:—many other instances are on record of still-born children, laid aside for dead, having, after a lengthened period, shown unmistakable signs of vitality:—is there anything in the natural condition of the fetus, as exemplified by the characters of its blood, which may, to a great extent, account for this tenacity of life?
9. Do children, whose life is all but extinct at birth, present in every case the same appearances? If not, contrast their conditions, and the treatment suitable to each.

10. A woman, within a few weeks of her full term, meets an accident; a rigor ensues, and the stethoscope fails to detect any more the fetal heart: within what time may we expect the dead fetus to be thrown off?

11. Is there any exception to this rule; that is to say, may a fetus perish in utero, without curtailing the duration of pregnancy?

12. A woman in the ninth month of pregnancy is going about performing her household duties; she unexpectedly feels urgent symptoms, as if delivery were imminent, but instead of the child being expelled, she suddenly loses a profuse quantity of blood. Supposing the hemorrhage to proceed, not from the uterus, but from the vagina, what lesion has occurred, and might such a case become the subject of legal investigation?

13. Might this accident occur during the progress of an otherwise natural labour; if so, at what period of the confinement most probably?

14. Hemorrhage, from the cause alluded to, may take place without an escape of blood externally. State the progress of a labour so complicated, and the risks, both at the time and subsequently, to which the woman is exposed?

15. In how many ways may the fetal head present when labour sets in at the full time? Contrast the 1st and 3rd positions as to the relations of the sutures and fontanelles to the pelvis, when the head is entering, and while passing through the cavity of the pelvis: state the direction of the face of the fetus when expelled, in each, and the situation of the caput succidanum, if it exist.

16. The practitioner is called to a patient at the full time, the history of whose former labours indicates that the antero-posterior diameter of the brim of the pelvis is defective in its dimensions. He finds the first stage of labour almost completed, and satisfies himself that there is an undue prominence of the sacral promontory, but not to such an extent as to render it impossible for the fetus to pass: the fetal heart is heard beating steadily. What modes of delivery have been recommended under such circumstances, and what the arguments used by the advocates of each?

17. In the former series of questions we considered the situation where an encroachment upon the cavity of the pelvis by an organ, not naturally within the pelvis, might occur most readily. Describe now the progress and ultimate position of a descent of the bowel in that direction, and how you would distinguish it from a prolapse of the vagina, from an abscess or an encysted tumour in its wall. If it complicate labour, what management will it require?

18. Describe the origin, progress, and nature of ovarian dropsy, and how distinguishable from ascites.

19. What effects do ovarian tumours of some standing produce on the peritoneum?

20. Multilocular and unilocular cysts (not in their nature malignant) may burst into the peritoneum. Why is it that sometimes a fatal result follows this accident, while at others no bad consequences ensue?

21. A child of four years of age is brought to you affected with dyspnoea. On stripping him you perceive a peculiar conformation of his chest—the sternum prominent, and the sides of the thorax concave outwards. Analyze the symptoms this child presents, more particularly as regards the respiratory movements and cardiac pulsations; and state what line of treatment will be most beneficial.

22. A child is placed under your care, who is stated to have had remittent fever, from which he appeared to be recovering, when he was attacked with occasional pains in the abdomen, and diarrhea. He is now emaciated, pulse quick, skin dry; he is unable to hold himself upright, and on being placed in the horizontal posture, lies on his back with his knees up. The abdomen is prominent, tender to the touch, and fluctuating. What is the nature of the ailment, the general principles which should regulate the treatment, and the post mortem appearances, if fatal?

23. This disease occurring in a young woman, and progressing stealthily, has been confounded with pregnancy. What are the points of resemblance, what the distinctive marks?

20th September, 1855, 9 o'clock, a.m.

NATURAL PHILOSOPHY — *Examiner, G. Johnstone Stoney, A.M.*

1. An uniform lever, three feet long, and weighing 5 lbs., rests on a fulcrum 6 inches from one end; what weight hung from that end will establish equilibrium.

2. Show that a rough plane may be so inclined that a body set in motion down it will slide without change of speed.

3. (a.) What is the principle of work?

(b.) Define stable, unstable, and neutral equilibrium, and give examples of each.

4. Prove, from mechanical principles, that when a cylindrical vessel containing water is spun round its vertical axis, the surface of the water will become concave.

5. If a bottle 10 inches high be filled with mercury, and if its neck be closed by a piston, whose end is half a square inch, and which is forced down by a pressure of 50 lbs., to what pressure per square inch will the bottom of the bottle be subjected?

6. Point out why, if there be an enlargement on a blood-vessel, there is more pressure there tending to burst it than elsewhere.

7. Account for the action of the common syphon.

8. Explain how a system of vibrations may constitute a wave, and state the direction of the vibrations which constitute waves of sound in air.

9. By what experiments may the identity of statical and current electricity be established?
10. By what arrangements may magnets be produced by the agency of electricity, and by what may electricity be produced by the agency of magnets?
11. (a.) How may it be shown that the eye is incapable of vision at the punctum caecum?
- (b.) Account for the illusion in the stereoscope.
12. Account for the formation of an optical image by a convex lens.

26th September, 1855, 2 o'clock, p.m.

PRACTICE OF MEDICINE.—*Examiner, Doctor Gordon.*

1. What authors have described the existence of physical phenomena in inflammation of the peritonaeum, and what are the observations which have been made?
2. What are the different circumstances under which sanguineous fluid has been found in the cavity of the pleura?
3. In the month of February, a gentleman, after riding home from a dinner party, was seized with vomiting and severe pain beneath the cartilages of the ribs on the left side; he was kept awake all night, sitting up in bed with his body bent forward. When visited next morning he had a very anxious and distressed countenance—constant nausea, with occasional vomiting and singultus; the pain continued, and was increased by inspiration, or motion, or manipulation, while gradual deep pressure did not annoy him; he had considerable symptomatic fever; he still preserved the same posture; the abdomen was strongly retracted, and there were no auscultatory phenomena in the thorax except that the respiration in the left lung was rather feeble. The disease not being recognised progressed. State—
 - (a.) Your diagnosis in the above case.
 - (b.) What were the probable phenomena which subsequently proved its nature; and
 - (c.) The line of treatment you would adopt.
4. What is the pathology of cyanosis?

27th September, 1855, 9 o'clock, a.m.

CHEMISTRY.—*Examiner, John Blyth, M.D.*

1. What is the law of the diffusion of gases? Point out the distinction between real diffusion and the passage of gases through moist membranes. Explain in what manner, in respiration, the feeble diffusive power of carbonic acid into atmospheric air is apparently increased.
2. Explain in symbols the products which are obtained by heating ferrocyanide of potassium with dilute and with concentrated sulphuric acid.
3. Explain the reactions which take place at the commencement, and towards the end of the process for preparing nitric acid, when one equivalent of KO NO_2 is heated in a retort with one and with two equivalents of H_2O , SO_2 , respectively.
4. How much of the first hydrate of nitric acid should be obtained, according to theory, from one pound of nitrate of potash, and how much sulphuric acid of sp. gr. 1.85 is necessary for complete decomposition of the salt, the residue in the retort being bisulphate of potash?

N.B.—N = 14 : — S = 16 : — O = 8 : — K = 39.

5. Explain the difference between constitutional water, and water of crystallization.
6. Give examples of real acid salts, and show how such acid salts as bisulphate of potash are really neutral compounds.
7. What is the nature of a basic salt? In what manner has it been shown that many basic salts can be regarded as neutral? Exemplify this in the case of basic nitrate of copper (4CuO , NO_3 , $+ 3 \text{H}_2\text{O}$.)
8. How is tartar emetic prepared? What are its properties and reactions with acids, alkalies, and HS : give its formula, as well as that of the salt of antimony, which remains in solution in the mother liquor, and state the nature of both, whether neutral, acid, or basic.
9. Give the formulae of the different alums. To what system do the crystals belong; and in virtue of what law do the different oxides replace each other?
10. Explain the phenomena of Endosmosis and Exosmosis, according to Dutochet.
11. State some of the endimetric modes of determining the amount of oxygen in atmospheric air. Show why the results obtained by employing NO_2 are incorrect.
12. Explain the distinction between cremation and putrefaction, as defined by Liebig; illustrate by examples.
13. What is meant by the terms oxidising and de-oxidising agents? Arrange under these heads: HS ; SO_2 ; Cl ; ClO ; nascent H ; NO_2 ; FeOSO_2 ; SnCl . Show, in symbols, the action of SnCl on corrosive sublimate; of HS on per-sulphate of iron; of FeOSO_2 on nitrate of silver; of SO_2 on bichloride of platinum; and of Cl on sulphate of manganese.
14. Explain the Binary theory of salts.
15. What is the nature of Colloidal employed in surgery? Give the chemical name, mode of preparation, and properties of the substance before solution.

16. What is the nature of a compound radical in organic chemistry? Give examples of halogen and basyl compound radicals.
17. Describe the process of fermentation by which Lactic and Butyric acids are formed.
18. Explain, according to the views of Liebig and of Mulder, the manner in which oxygen is conveyed from the lungs throughout the circulation.

27th September, 1855, 2 o'clock, p.m.

SURGERY.—*Examiner, Christopher Fleming, M.D., F.R.C.S.I., M.R.I.A.*

1. What are the essential differences in the symptoms, the progress, and the treatment of Phlegmonous and of Erysipelatos inflammations?
2. Specify those cases of burns and scalds in which the prognosis is most unfavourable; mention the probable causes of death in such, and the periods at which it may occur.
3. Whether was the carotid artery first tied in a case of injury or of disease? If in a case of the latter, name the disease, the surgeon who operated, and give the result of his operation.
4. Where is the common carotid artery tied with most facility? Describe the several stages of the operation, and name the ordinary period at which the Ligature separates.
5. In what situations may the bladder be punctured? State the cases in which the operation is called for; mention the requisite appliances for such; and give the special operations in detail.

28th September, 1855, 9 o'clock, a.m.

BOTANY.—*Examiner, Dr. McNeill.*

1. State the arguments for and against the axial theory of placentation.
2. Describe the phenomena exhibited in the germination and development of ferns
3. Describe the plants placed on the table, using the appropriate technical terms as to form, relative position, colour, &c.
4. Give the characters of the natural orders:—*Liliaceæ, Euphorbiaceæ, Solanaceæ*; and mention the principal medicinal products derived from each.

ZOOLOGY.

1. Define the class *Entozoa*; state the diagnostic characters of the groups into which it is usually divided, and mention the leading phenomena connected with their mode of generation and development.
2. Point out the anatomical and physiological characters which separate the *Amphibia* from the *Reptilia*; and give tabular views of the orders in each, with their leading characteristics.
3. Give a sketch of the homology of the vertebrate skeleton, and point out the principle which determines the number of vertebral segments in the cranium.
4. Enumerate the families of the *Quadrumanæ*; and mention their principal peculiarities as to organization and mode of life.

22nd September, 1855, 2 o'clock, p.m.

MIDWIFERY, AND DISEASES OF WOMEN AND CHILDREN.

Examiner, Professor Doherty, M.D.

1. When the uterus in the human subject is *in situ*, and unimpregnated, what is the relative position of the fallopian tube, the proper ligament of the ovary, and the round ligament at their insertion into the uterus?
2. To what extent is the uterus connected to the bladder before, and the rectum behind: is it possible for any other organ to interpose; if so, in which of these situations is the displacement more likely to occur?
3. What preparation does the uterus make for the reception of the impregnated ovum; what was the opinion formerly entertained respecting the formation of the decidua vera and reflexa; what the modern doctrine?
4. What portion of the womb retains longest, after conception, its original dimensions? Does the late expansion of the part alluded to explain why loss of blood from a certain species of malposition of the uterine contents occurs only towards the close of gestation?
5. A woman in the third month of pregnancy has had hæmorrhage for some hours, accompanied occasionally by pain in the hypogastric region; on examination, the cervix uteri is found to have become altered, so that the vaginal portion of the uterus has assumed an oviform shape:—what prognosis will you make, and why?
6. If you wish to promote the expulsion of the ovum in such a case, what means will you employ? How is it that ergot, given for the purpose, may produce an opposite effect? How would you remedy this untoward operation of the drug?
7. Give a detailed account of the duties of the accoucheur in a perfectly natural case of labour?
8. A woman, near the termination of gestation, is going up stairs; without any previous warning, the liquor amnii gushes away:—within what time will labour most probably set in?

9. May this premature discharge of the waters prove prejudicial during the progress of the labour?

10. Under what circumstances is it right to rupture the membranes artificially?

11. What would you, at an early stage of labour, at the full time, to doubt that the fetal head presented:—can the stethoscope give assistance in determining the point:—at what stage can the nature of the presentation be determined; and what rule, derived from this fact, should be observed in the management of every case?

12. State the distinguishing marks, firstly, of a breech, and secondly, of a foot, presentation. At what stage of the labour in such cases should artificial aid begin? Describe the manipulation to be adopted, and state the dangers to which the fetus is inevitably exposed, and the injuries that may be inflicted on it, during the delivery, by an incompetent accoucheur.

13. How soon after childbirth does the secretion of milk usually set in: what symptoms accompany it. May a mistake be made regarding the condition of the uterus at that period?

14. What is the rule of practice, as to the time when the infant should be applied to the breast: what ill consequences arise from a premature application, what from too much delay?

15. Describe, anatomically, the milk ducts in the human mamma. Is there any thing observable in the position of the nipple which may be regarded as a special provision, having reference to the natural attitude of the nursing mother?

16. If it be desirable to put back the milk, what means would you employ? Explain particularly the mode of applying a compressing bandage to both breasts.

17. When an infant sucks, what causes the milk to flow into its mouth: why does coryza greatly incommode it during the operation?

18. What peculiar apparatus, for the ejection of the milk, is attached to the mammary gland in the marsupials: why is such a provision necessary?

19. What is the correlative peculiarity in the faeces of the young kangaroo during lactation?

20. Is there any group of animals in which a very similar arrangement of the faeces prevails permanently to subserve the conditions of their existence?

21. To what derangements is an infant liable who is nursed with unwholesome milk? Is there any peculiarity (that the microscope reveals) which, properly belonging to the colostrum, may prove pernicious to the child, if persistent beyond its usual duration: within what time, according to Donné, should this peculiarity disappear?

22. Why are convulsive affections so much more common in early life than subsequently?

23. Describe a case of meningitis of the spinal cord. Under what circumstances has it prevailed endemically in Ireland?

20th September, 1855, 9 o'clock, a.m.

MODERN LANGUAGES.—*Examiner, Professor Frings, PH.D.*

GERMAN.—I.

A.

1. Woher kommt das Wort "Deutsch"?
2. Woher stammte sich die Verschiedenheit zwischen der deutschen und englischen Sprache?
3. Woher stammte sich die Verschiedenheit, daß das Deutsche stilles Verstehen hat?
4. Woher unterscheidet sich die deutsche Sprache von der andern neuen Sprachen?
5. Wie geht der Deutsche den Namen "Germanen"?
6. Woher stammte sich die Verschiedenheit zwischen der deutschen Sprache im 18ten Jahrhundert zu?
7. Woher stammte sich die Verschiedenheit zwischen der deutschen Sprache von dem ersten Anfang bis zu ihrem gegenwärtigen Standpunkt?
8. Hat die deutsche Sprache irgend eine, auch noch so kleine, Vertheilung mit irgend einer andern Sprache, und mit welcher?

B.

1. Nenne die deutschen Zeitwörter, die im perfect Zustand die Form des Infinitivs beibehalten, und unter welche Theile.
2. Unterscheide zwischen "Man lauge über mich," und "Man lauge über mir."
3. Was ist eine Clause hat das Verbum auf die Bildung eines Satzes? Gibt es Modusformen und welche?
4. Nenne die im Deutschen stehenden, mit was 9, und wie unterscheidet sie sich in der Aussprache?
5. Was bedeutet "überlegen" mit dem Reflexiv auf der einen Seite, und was, mit dem Reflexiv auf der andern?
6. Unter welche Vertheilung steht das Verbum von dem Zeitworte abspalten und was hat das Geheiß geirrt?
7. Unterscheide zwischen "Es ist" und "Es gibt," und welche die andern obigen Eigenschaften, die beider theile.
8. Welche Zeitwörter stehen im Deutschen den hiesigen folgenden Infinitiv ohne das Verbum zu?

II.

Translate into German:—

To say the truth, eating seems to make a grand ingredient in all English parties of seal, business, or amusement. When a church is to be built, or an hospital endowed, the directors assemble, and instead of consulting upon it, they eat upon it; by which means the business goes forward with success. When the poor are to be relieved, the officers appointed

to dole out public charity assemblé and eat upon it. Nor has it ever been known that they filled the bellies of the poor, till they had previously satisfied their own. And yet I could forgive this people their plentiful meals on such occasions, as it is extremely natural for every man to eat a great deal when he gets it for nothing: but what amazes me is, that all this good living no way contributes to improve their good humour. On the contrary, they seem to lose their temper as they lose their appetites; every morsel they swallow, and every glass they pour down, serves to increase their animosity.

GOLDSMITH.

FRENCH.—I.

A.

1. Que veulent dire les expressions "*Langue d'Oc* et "*Langue d'Oïl*"? Lequel de ces deux dialectes est devenu la langue française d'aujourd'hui, et quelle est la différence de ces deux dialectes?
2. Quelle est l'origine de la langue française?
3. Comment les terminaisons latines: *atio, io, or, tas* sont-elles généralement rendues en français?
4. Qui est-ce qui a porté la langue française à sa perfection?
5. À qui les Français attribuent-ils le mérite d'avoir perfectionné l'art d'écrire en vers?
6. Nommez les langues qui ont contribué plus ou moins à enrichir la langue française.
7. Quelles sont les causes principales qui ont contribué à rendre la langue française universelle?
8. Est-ce que l'orthographe française d'aujourd'hui diffère de celle du siècle de Louis XIV., et en quoi?

B.

1. Quelle est la différence entre *Savoir* et *Connaitre*?
2. Dans quels cas les Français se servent-ils de l'adjectif au lieu de l'adverbe?
3. Est-ce que la phrase suivante est correcte? Si non, corrigez s'il vous plaît:—
"Mes sœurs s'étaient proposées de passer trois mois à la campagne, mais des accidents imprévus les en ont empêchées."
4. Mentionnez toutes les règles que vous savez sur l'emploi du subjonctif en français.
5. Est-il correct de dire, "Je couperai vos oreilles?" Si non, corrigez et donnez la règle.
6. Quand le Participe présent est-il variable et quand ne l'est-il pas? Donnez des exemples.
7. Montrez en quoi l'usage des nombres cardinaux diffère en français de celui qu'on en fait en anglais.
8. Est-ce que la prose française admet des inversions, et lesquelles?

II.

Translate into French:—

France and England may each of them have some reason to dread the increase of the naval and military power of the other; but for either of them to envy the internal happiness and prosperity of the other, the cultivation of its lands, the advancement of its manufactures, the increase of its commerce, the security and number of its ports and harbours, its proficiency in all the liberal arts and sciences, is surely beneath the dignity of two such great nations. These are the real improvements of the world we live in. Mankind are benefited, human nature is ennobled by them. In such improvements each ought, not only to endeavour itself to excel, but, from the love of mankind, to promote, instead of obstructing the excellence of its neighbours. These are all proper objects of national emulation, not of national prejudice or envy.

SMITH—*National Prejudice.*

ITALIAN.—I.

1. La Lingua Italiana, quella cioè che coltivano i letterati, ne si usò e non fu ben sistematizzata prima del che secolo?
2. Perché la lingua dei Troubadours era detta romanza?
3. Quali fra i restauratori benemeriti della Lingua Italiana, che scrissero poco innanzi del Dante sono degni di menzione?
4. Qual è l'opera di Boccaccio la più pregiata, e a cui deve singolarmente la celebrità del suo nome?
5. Menzionate gli uomini grandi per quanti possete ricordarvi nello secolo diciottesimo.
6. Citate i più celebri italiani Scrittori drammatici.
7. Che sono i più celebri Epici italiani? Citate i loro poetici componimenti i più considerabili.
8. Che secolo vide nascere Lodovico Ariosto?
9. In vista di qual opera le più colte Nazioni d'unanimità consenso danno all'Ariosto il titolo di divino?
10. Perché nel secolo diciassettesimo si vide languir di nuovo il buon gusto della italiana letteratura?
11. Come si forma il plurale dei sostantivi italiani?

12. Come, in italiano, si esprimano la comparazione di uguaglianza, e come, se voglia annunziare superiorità?

13. Che secolo era detto "*Il Secolo d'oro*" della italiana letteratura, e perché?

14. Quando il participio passato in italiano si regola col suo nominativo, e quando colla sua concordanza?

II.

Translate into Italian:—

When I was a child of seven years of age, my friends, on a holiday, filled my pockets with coppers. I went directly to a shop where they sold toys for children; and, being charmed with the sound of a whistle that I saw on the way in the hands of another boy, I voluntarily offered him all my money for one. I then came home, and went whistling all over the house, much pleased with my whistle, but disturbing all the family. My brothers, and sisters, and cousins, understanding the bargain I had made, told me I had given four times as much for it as it was worth. This put me in mind what good things I might have bought with the rest of the money; and they laughed at me so much for my folly, that I cried with vexation, and the reflection gave me more chagrin than the whistle gave me pleasure.

FRANKLIN.

22d September, 1855, 2 o'clock, p.m.

MATERIA MEDICA AND PHARMACY.—*Examiner, Dr. William Barker.*

1. How is a standard of weights and measures obtained?
2. What are the impurities most frequently found in sulphuric acid, and how may they be separated?
3. Describe the modes of obtaining hydrocyanic acid, write in symbols the changes that take place in the processes, and describe the means of ascertaining its strength and purity.
4. How is the hydrosulphuret of ammonia prepared? what are the tests of its purity, and its uses in medicine?
5. What is the composition of the ordinary Ferri Carbonas?
6. What are the most common adulterations of commercial magnesia and its salts, and how are they detected?
7. Enumerate the principal preparations of opium used in medicine, and the proportions of opium in each.
8. How do we ascertain the strength and purity of acetic acid?
9. How do we ascertain the purity of claterrum?
10. Describe the process for obtaining absolute alcohol, and the changes which take place during its conversion into acetic acid.
11. State the principal pharmaceutic substances containing tannic acid, and describe the process for obtaining it in a pure state.

25th September, 1855, 2 o'clock, p.m.

MATERIA MEDICA, PHARMACY, AND MEDICAL JURISPRUDENCE.

Examiner, Dr. William Barker.

1. In what cases do we employ the specific gravity of substances as a means of ascertaining their strength or purity?
2. Why cannot the specific gravity of mixtures of fluids of known specific gravity be ascertained by calculation?
3. Describe the processes for obtaining potash, and the tests for its absolute purity.
4. What are the principal uses of sulphurous acid, and what are its effects on organic life?
5. What is the mode of obtaining ether, and what are the theories of its formation.
6. In a case of suspected poisoning by opium, what means would you adopt to test its presence?
7. Describe symptoms of poisoning by strychnia.
8. How can strychnia be detected in mixed fluids?
9. What is supposed to be the source of poison in diseased animal food?
10. Mention some of the principal gaseous poisons and their antidotes.
11. What circumstances would lead you to suspect infanticide in a case of sudden death of a child?
12. State the different modes in which lead may act as a poison.
13. Describe symptoms of poisoning by belladonna.

1st October, 1855, 9 o'clock, a.m.

ANATOMY AND PHYSIOLOGY.—*Examiner, J. H. Corbett, M.D.*

1. How do you prove the circulation of the blood?
2. Describe the mechanism of respiration. Mention the muscles and nerves which are engaged in that function.
3. Mention the constituents of the blood, and describe the red corpuscles.
4. Describe the origin and course of the paretic nerve.
5. Offer proofs to show that the sense of smell resides in the olfactory nerves and lobes.
6. Describe the umbilical vein and hypogastric arteries of the fœtus.

7. Describe the structure of the veins. Mention the general plan on which the venous system is constructed; state the forces which promote the circulation of blood through the veins.

8. Give an outline of the function of chylification, and describe the structural anatomy of the small intestines.

9. What are the circumstances which influence the exact amount of carbonic acid exhaled by a man within a given period of time.

10. Describe the inferior laryngeal nerves. Mention some experiments made on animals in order to determine their function.

1st October, 1855, 9 o'clock, a.m.

ANATOMY AND PHYSIOLOGY.—*Examiner, J. H. Corbett, M.D.*

1. Describe the several constituents of the skin, and state the function of each.

2. Describe the recti pectei and obliqui capitis muscles, and mention the parts which can be seen on dissecting into the space included between them.

3. Describe the kidneys during fetal existence, and state whether there is any analogous condition as a permanent arrangement in some animals.

4. What explanation would you afford as to the cause of the first inspiration at birth.

5. Describe the spinal membranes and the ligamentum denticulatum. State the office of each, and contrast all with the membranes of the brain.

6. Describe the structural anatomy of the lobules of the liver.

7. Describe the nature of the respiratory process, according to the views of La Grange.

8. Mention the origin, course, relations, and distribution of the spinal accessory nerve.

9. State the function of the glosso-pharyngeal nerve, and describe its origin, course, and mode of distribution.

10. Trace the genito-urinary mucous membrane through its various inflexions in the male subject.

11. State the composition and use of the bile.

12. Describe the origin, course, relations, and branches of the vertebral artery.

1st October, 1855, 2 o'clock, p.m.

ANATOMY.—*Examiner, J. H. Corbett, M.D.*

1. Describe the pharynx, its muscles, vessels, and nerves, and the passages which communicate with it.

2. Describe the articular surfaces of the first and second cervical vertebrae, and the ligaments connected with these bones.

3. Describe the origin, course, and surgical anatomy of the internal epigastric artery.

4. Mention the several parts passing through the upper orifice of the thorax, and their relative positions.

5. Describe the prostate gland, its relation to the neighbouring parts, and the objects observable on opening into the prostatic portion of the urethra.

6. Describe the origin, course, and branches of the ophthalmic artery, and draw a distinction between the different sets of ciliary arteries.

7. Give a description of the position, form, and connexions of the optic thalami.

8. Describe the ligaments and articular surfaces of the bones forming the ankle joint, and state the exact position of the tendons, vessels, and nerves in relation with it.

9. Describe the internal and external plantar arteries.

10. Describe the chordæ vocales and arytenoid cartilages.

11. Describe the membrana nictitans of the bird.

12. Describe the anatomical characters peculiar to the eye of a fish.

1st October, 1855, 3 o'clock, p.m.

ANATOMY.—*Examiner, J. H. Corbett, M.D.*

1. Describe the ligaments which connect the bones of the vertebral column.

2. Describe the femoral artery in Scarpa's space.

3. Describe the articular surfaces, the ligaments, and synovial apparatus of the temporo-maxillary articulation.

4. Describe the pterygoid muscles and their actions.

5. Describe the origin, course, relations, and branches of the internal maxillary artery.

6. Describe the sub-maxillary gland, and the course of its duct.

7. What are the irregularities with respect to origin of the obturator artery; in case of crural hernia does it always occupy the same position in relation to the neck of the sac?

8. Describe the popliteal region. State the relations of the popliteal artery, and mention its branches.

EXAMINATION FOR THE DEGREE OF LL.B.

26th September, 1855, 9 o'clock, a.m.

LAW OF PROPERTY AND PRINCIPLES OF CONVEYANCING.

Examiner, Professor Barry.

1. In the following instances of variance between the *premises* and the *habendum* of a conveyance, state the result with reasons:—

<i>Premises.</i>	<i>Habendum.</i>
To A.	To A and his heirs.
To A for life.	To A and his heirs.
To A for 21 years.	To A and his heirs.
To A.	To A from the death of B.
To A for life.	To A from the death of B.
To A and his heirs.	To A for life.
To A and his heirs.	To A and the heirs of his body.
To A and the heirs of his body.	To A and his heirs.

2. Give an outline of a mortgage in fee, the property being house property, and the security intended to be as full as possible.

3. State the principal effect and operation of the Act for the Registration of Deeds. What are the requisites of a valid registration?

4. Define privity of estate, and state under what circumstances it is material.

5. Determine the cases in which a purchaser is bound to see to the application of the purchase money.

6. In what cases is the vendor of a lease not bound to produce his lessor's title?

7. What conveyances are fraudulent as against subsequent purchasers?—as against creditors?

8. State the legal interest of a husband in his wife's real property in possession, and his legal interest in his wife's personal property in possession, and refer the difference between these interests to some general rules of law.

9. Define a power under the statute of uses. Define an equitable power, and state the principal distinctions between them as to creation, determination, &c.

10. State the difference between legal and equitable objections to title, and refer to instances showing that equitable objections are considered by courts of law.

11. Devise to A and the heirs of his body, and in default of such issue to B and the heirs of his body, and in default of such issue to C in fee. A suffered a recovery with single voucher, and executed a deed declaring the use to himself in fee, and sold. Is the title good?

12. Devise to A and his heirs in trust to sell and pay debts. A dies before the trusts are executed, having devised all his trust estate to B and his heirs on the existing trusts. Can B make a title to a purchaser of the trust estate?

26th September, 1855, 9 o'clock, a.m.

JURISPRUDENCE.—*Examiner, T. E. Cliffe Leslie, LL.B.*

I.—ANALYTICAL JURISPRUDENCE.

1. (a.) Why are the sanctions of human laws, according to Blackstone, for the most part vindicatory rather than remuneratory?

(b.) Do you consider the sanctions of civil as opposed to criminal law, vindicatory? 2. What provision, if any, should be made by the laws, in order to secure national subsistence and abundance?

3. "Nor are the expectations of probable heirs less real possessions, which it is a hardship to defeat" (*Hallam*). "The right of inheritance is not an absolute real right; but this right to acquire may so far be correctly called real" . . . (*Reddie*). Explain the sense in which the term *real* is used in each of the above passages, and the extent to which Dr. Reddie admits the propriety of terming the right of inheritance a real right.

4. How does Savigny classify the rights comprehended in the private law of a state?

5. What are the chief advantages and disadvantages of trial by jury?

6. What are the chief advantages and disadvantages of having a plurality of judges in each of the superior courts of law?

II.—HISTORICAL JURISPRUDENCE.

1. To what institution does Hallam attribute the uniformity of the Common Law of England, and when was that institution established?

2. What causes principally contributed to a great improvement in the English legal system, in the period inclusive of the reigns of Henry II. and Edward I.?

3. Is the title of "the English Justinian" properly applicable to Edward I. in reference to his legislative improvements?

4. "This enactment (*Poyning's law*) has made an epoch in Irish Jurisprudence: the law of the two countries has begun to diverge from that time" (*Hallam*). Explain this.

5. "Both the intention and effect of the statute of fines seem not to have been justly apprehended. . . . The liberty of alienation was neither necessary nor intended to be given by it" (*Hollam*). "With respect to lands granted to a man and the heirs of his body, the power of the ancestor is not now so complete as in the time of Henry III." (*Williams on the law of real property*). Explain the foregoing passages, stating the principal changes which the law has undergone with respect to the right of alienating entailed lands, from the reign of Henry III. to that of William IV.

6. Give a short statement of the causes which led to the establishment of separate systems of law and equity in England, and show the tendency of modern legislation to assimilate their functions.

26th September, 1855, 2 o'clock, p.m.

EQUITY.—*Examiner, Professor Barry.*

1. State the Common Law as distinguished from the equitable jurisdiction of the Lord Chancellor, and describe his delegated jurisdiction.

2. From what source does the jurisdiction of the Court of Chancery over infants proceed? From what time, in history, has this Court taken upon itself to act on and in behalf of infants, as Guardians?

3. Explain the doctrine of conversion. What circumstances are to be considered in determining whether a conversion is intended to be partial, notwithstanding general directions to convert the whole fund?

4. Distinguish the cases in which the heir, upon whom a mortgaged estate descends, can claim to have the estate exonerated by the personality, from the cases in which he is bound to take "*cum onere*."

5. Describe a constructive trust, and give an instance.

6. Why are not trustees of an equity necessary parties to a suit relating to the trust property?

7. Point out the difference between the powers of co-trustees and co-executors.

8. Can a trustee purchase from the cestui que trust?

9. In what cases will the Court of Chancery execute gifts *cy-près*?

COMMON LAW AND CRIMINAL LAW.—*Examiner, Professor Barry.*

1. What is the use and intention of the statutes of limitation? To what class of actions was the doctrine of limitation first applied? And explain this doctrine as originally established.

2. By what statute is the law as to the limitation of the Crown in suits relating to land now governed?

3. What is the practical distinction between a sum of money, agreed to be paid on breach of an agreement, being considered as the liquidated amount of the damage sustained, and its being treated as a penalty: and on what considerations does it depend whether a given sum, in any particular case, falls under one predicament or the other?

4. Give an example illustrative of the distinction referred to in the preceding question?

5. When will an untrue representation, unaccompanied by fraud, vitiate a policy of insurance?

6. What is the usual form of a charter-party, and what engagements are usually entered into on either side?

7. What is maintenance? and distinguish it from champerty.

8. How may the offence of conspiracy be described? Is it an offence for workmen to combine together to raise wages?

9. What is a presentment, in its general and proper sense?

10. Give the effect of 14 & 15 Vict., c. 100, s. 4, in reference to the mode of stating, in an indictment for murder, the manner and means of death.

11. What is the respective effect of a judgment on demurrer in favour of, and of one against, a prisoner?

12. What rule formerly existed as to the production of evidence for the prisoner? and when was it altered?

13. Give the effect of 14 & 15 Vict., c. 100, s. 9, in reference to the case of a prisoner not completing the offence with which he was charged.

14. May a prisoner, indicted for manslaughter, be acquitted of the manslaughter and found guilty, on the same indictment, of a common assault?

CIVIL LAW.—*Examiner, T. E. Cliffe Leslie, LL.B.*

1. Explain the following phrases—*ius honorarium*, *ius civile*, *ius italicum*.

2. In what sense has the Roman law been styled by publicists the common law?

3 a. What were the functions of the Roman *foedales* and *recuperatores* respectively?

b. Those functions exhibit a recognition of the distinction between public and private international law?

4. Several instances of codification occur in the history of the Roman law?

5. Trace the principal epochs in the history of the Roman law in Europe after the time of Justinian.

6. Give a sketch of the history of the civil law in England.
7. What are the principal modes of acquiring property according to the *ius gentium*?
8. Should an island rise in the sea, and another in a river, who would be entitled to the proprietorship of the new land in each case, according to the civil law?
9. Explain the terms *usucapio*, *cessio bonorum*, *collatio bonorum*, pointing out analogies and differences in English law.
- 10 a. To what principle is the right of capturing the property of a hostile state referred in the civil law?
- b. Is the application of the principle, in its full extent, to such property sanctioned by international law?
11. Explain the origin and application of the term *postliminium*.
12. "Although they appear to have been ignorant of the practical utility of marine insurance, the Romans were familiarly acquainted with the contracts of *bottoury* and *respondentia*. . . . In Great Britain, while the business of insurance is carried on to a greater extent than ever, the contracts of *bottoury* and *respondentia* are now seldom resorted to." (*Reddie on the Law of Maritime Commerce*). Can you explain, to any extent, the facts noticed by Mr. Reddie, by reference to the laws relative to usury?

27th September, 1865, 9 o'clock, a.m.

PLEADING, PRACTICE, AND EVIDENCE.—*Examiner, Professor Barry.*

1. What is the difference between a plea in justification and a plea in discharge?
2. Describe the plea of "*sem assault donecum*," and state what kind of plea it is technically.
3. What is "a departure" in pleading?
4. How is an issue in law raised, and how tried?
5. What is trial "*by the record*?" and how does it take place?
6. What is trial by "*proviso*?"
7. What is the meaning of praying a "*tales de circumstantiis*?"
8. How are witnesses compelled to appear and give evidence? and what is the object of a direction called "*duces tecum*," and in what is it usually inserted?
9. State some of the things, of the existence and truth of which judicial notice must be taken without other evidence.
10. What is the general nature of presumptions of law? What are conclusive presumptions? Give some instances where presumptions are not so, and may be rebutted.
11. If a landlord, in proving his own title, disclose the fact, that he has but an equitable estate, may the defendant, his tenant, take advantage of such failure of title in his landlord? Mention some instances in which a tenant may set up want of title in his landlord.
12. What is meant by the term "the best evidence?" In its absence, what is requisite before secondary evidence can be received? What are the degrees of secondary evidence?
13. Upon what principle is it that "dying declarations" are admissible in evidence? and what circumstances are requisite to be proved before they can be admitted?
14. If the oral testimony of a witness, who cannot be produced, is sought to be put in evidence, what facts must be proved previously to its admission?
15. Who determines the question whether a matter is admissible in evidence or not?

CONSTITUTIONAL LAW.—*Examiner, T. E. Cliffe Leslie, LL.B.*

1. How would you classify the subjects comprehended under the head of Constitutional Law?
2. What meaning do you attach to the phrases *public rights*, *political rights*, *civil rights*?
3. "Parliament has two functions, the legislative and executive," (*Economist*, 25th August, 1855). Has Parliament executive functions?—and if so, what are they?
4. "In our country the Ministry have long been vulgarly termed the Government, although they have no constitutional existence," (*Glosses at Truth*, 4th ed. p. 330). If it is true that the Ministry have no constitutional existence, how have their functions been created? If it is untrue, prove it to be so.
5. "This is the last statute that has been found necessary to restrain the Crown from arbitrary taxation, and may be deemed the complement of those numerous provisions which the virtue of ancient times had extorted from the first and third Edwards."—(*Constitutional History*, chap. ix.)
- (a) What statute is referred to, and when enacted?
- (b) Describe briefly the chief provisions made respecting arbitrary taxation in the reigns of the Edwards.
6. State the provisions of the Habeas Corpus Act, 31 Car. ii., c. 2, and of the supplementary act passed in the 56th of Geo. III.
7. Describe the changes which have taken place in the political relations of Ireland and Scotland to England, with dates.
8. How do you define the distinction between absolute and limited monarchy?
9. Hallam observes that there is one most prominent and characteristic distinction between the constitution of England and that of every other country in Europe.

27th September, 1885, 9 o'clock, a.m.

COLONIAL LAW.—*Examiner, T. E. Cliffe Leslie, LL.B.*

1. Describe the composition of the government of India.
2. Describe the judicial institutions of India, pointing out what you consider their principal defects.
3. Describe the constitutions of the colonies of Australia, New Zealand, and Canada.
4. Do the Ionian Islands form a dependency of Great Britain or not, in your opinion; and why?
5. State the different modes of acquiring a dependency, with examples; and point out the different effects of each mode of acquisition upon the law of the dependency.
6. "There is no system of personal law in the dependencies of England, such as existed in Western Europe soon after the conquests of the German barbarians, and as now exists in Hindostan," (*Lewis on the Government of Dependencies*); what is meant by the existence of a system of personal law in Hindostan?

27th September, 1885, 2 o'clock, p.m.

INTERNATIONAL LAW.—*Examiner, T. E. Cliffe Leslie, LL.B.*

1. On what grounds does Hallam question the validity of the argument, that Mary Queen of Scots *as an independent Sovereign* was not amenable to any English jurisdiction?
2. "One of his captains cruising in pursuit of five Spanish galleys, and finding them take refuge in the little French port of St. Tropez, was not withheld by the peace which still subsisted with France, but entered the harbour after them, and by the aid of a fireship reduced them to ashes," (*Madox's History of England*, chap. xxiv.); was this a violation of International Law?
3. State the meaning you attach to the phrase "balance of power in Europe;" and on what occasions forcible intervention for its maintenance is, in your opinion, legitimate.
4. Give a short account, with dates, of the principal treaties relating to the "balance of power."
5. State the principles of International Law relative to the effect of a war between two States upon public compacts between them, and upon private contracts between their inhabitants.
6. What changes has the present war produced in the practice of maritime hostilities by France and England, respectively?
7. Describe the principal changes in the mode in which International Law has been cultivated during the following periods:—
 - (a.) From the age of Grotius to that of Pufendorf.
 - (b.) From the age of Pufendorf to that of Wolf and Moser.
 - (c.) From the age of Wolf and Moser to that of Von Otmieda and Von Martens.
8. Are there any circumstances which tend to account for the diligence and success with which the branch of International Jurisprudence relative to the conflict of laws has been cultivated in America?
9. "The civilians have divided municipal laws into two classes, which they call respectively *real statutes* and *personal statutes*. On this distinction depends the question, whether the *law of the domicile*, or *lex fori*, or *lex rei sitæ*, is to have the preference in cases of conflict," (*Commentaries on Universal Public Law*). Explain the phrases in Italian.
10. "Suppose a contract is made in England between two Englishmen for the sale of lands situate in Jamaica, and the vendee agrees to give £30,000 for the land, without specifying the currency: £28,000 Jamaica currency would constitute £30,000 English," (*Story's Conflict of Laws*, chap. viii.) According to the currency of which country should the purchase money be paid?
11. Explain and exemplify the rule *extra territorium jus dicenti impune non paretur*.
12. "The maritime law is not the law of a particular country, but the general law of nations," (*Lord Mansfield*). Explain this.

EXAMINATION FOR DIPLOMA IN AGRICULTURE.

18th September, 1885, 9 o'clock, a.m.

THEORY OF AGRICULTURE.—*Examiner, Professor Hedges, M.D., F.R.S.*

1. State the average per centage composition, respectively, of the ash of wheat and oats.
2. Mention the amount of nitrogenized (flesh forming) substances respectively contained in 100 parts of the seeds of the following crops dried at 212°:—wheat, oats, beans, Indian corn.
3. What is the usual composition of genuine peruviana guano, and the commercial value of the fertilizing matters contained in an average sample.
4. Give an account of the statements of Messrs. Lawes and Gilbert, respecting the influence of manures on the growth of wheat and turnips, and of the objections to their opinions, derived from the investigations of Baron von Liebig.

5. What is the explanation of the advantages of fallow?
6. Mention the effects produced by the presence of an excess of water in the soil, and the benefits derived from its removal.
7. Describe the various methods adopted in the preparation of bones for manure, and explain the chemical changes produced in the manufacture of vitrified bones.
8. What amount of soluble hi-phosphate of lime and of nitrogen should a sample of super-phosphate, stated to have been prepared from bones, yield on analysis?

18th September, 1855, 2 o'clock, p.m.

PRACTICE OF AGRICULTURE.—*Examiner, Professor Hodges, M.D., F.C.S.*

1. Take the plan of the farm submitted, and mark upon it the proper direction in which drains should run, and the situations in which you consider the sub-mains and mains should be placed.
2. State the operations required to prepare the soil for the flax crop, and the method of managing the crop.
3. What quantities of seed per acre are required to sow the following crops broad-cast—flax, wheat, oats, barley?
4. Describe the peculiarities and mode of action of the reaping machines of Hussey and McCormick.
5. Give an account of the arrangements and machinery required for the distribution of liquid manure, by steam power, as adopted in Ayrshire, and on the farm of the Commissioners of Education, at Glensnevin.
6. State the plans to be adopted for the preservation of farm-yard manure.

19th September, 1855, 9 o'clock, a.m.

HISTORY AND DISEASES OF FARM ANIMALS.—*Examiner, Professor Hodges, M.D., F.C.S.*

1. Describe the chief distinguishing peculiarities of the breeds of sheep.
2. To what cutaneous diseases are sheep especially subject?
3. Mention the method of feeding which you would adopt to favour the production of butter in cows kept for the dairy.
4. What are the principles which should guide the farmer in the management of fattening stock?
5. How would you ascertain the value of a sample of milk?

19th September, 1855, 2 o'clock, p.m.

SURVEYING AND MAPPING.—*Examiner, J. England, A.M.*

1. Describe the method of making a survey with the chain.
2. Calculate the quantity due to the offsets in the annexed field-book:—

20	670	
0	550	0
	500	35
	350	25
0	220	0
	150	10
	0	20

3. A chain when compared with the standard is found to be one link too short; what error would this cause in a survey made with it, and computed as 100a. 2n. 36r.?
4. State the methods usually employed for enlarging maps.
5. Describe the method of making a survey with the prismatic compass, and the checks on the accuracy of the work.
6. Describe the Vernier scale, and illustrate it by an example.
7. State the adjustments of the spirit level which have to be made at each setting-up of the instrument.
8. How may the vertical position of the staff be insured?
9. How do you check the field operations in levelling?
10. Fill up the necessary columns of a levelling field-book, and reduce the following readings, the datum being taken at 100:—

Back.	Foro.
10.56	6.40
8.72	7.35
5.42	6.54
3.21	7.48

11. The distances in links being 100, 250, 300, 450, plot the above section.
12. State the checks on the accuracy of the levelling field-book.

20th September, 1855, 9 o'clock, a.m.

ARITHMETIC.—*Examiner, Rev. Robert Carmichael, A.M., F.T.C.D.*

1. Calculate the income tax on £230, at 7d. in the £1.
2. The liabilities of a grazier being £3,467 19s. 6d., calculate the amount of his assets, in order that he should be able to pay 7s. 6d. in the £1.
3. The price of 15 cwt. 3 qrs. 6 lbs. of beef being £33 3s. 9d., calculate the price per cwt.
4. Find the interest on £371 10s. for 81 days at five per cent. per annum.
5. Calculate the number of square yards in 30 acres.
6. Multiply 32.51 by .06, and divide 53.25 by .05; in each case explaining the process employed, by the aid of vulgar fractions.
7. Reduce the circulating decimal .234 to a vulgar fraction, and account for the process employed.
8. Add together

$$\frac{1}{2} \quad \frac{1}{3} \quad \frac{1}{4} \quad \frac{1}{5}$$

9. The price of butcher's meat in 1813 was, in England, £4 5s. per cwt. while the price in 1827 was only £1 15s. 4½d. per cwt.; calculate the rate per cent. of the fall in price.

21st September, 1855, 9 o'clock, a.m.

CHEMISTRY.—*Examiner, John Blyth, M.D.*

1. What peculiarity in the rate of expansion does water exhibit on cooling from 46° to 32° F.? Of what importance is this anomaly in the economy of nature?
2. Describe the mode of forming thermometers; explain the three scales commonly used, and show the manner of converting the degrees of the different scales into each other.
3. State, shortly, the laws of chemical combination.
4. Explain in symbols, the formation of oxygen from a mixture of chlorate of potash and peroxide of manganese; what part does the manganese play?
5. On boiling freshly-fallen rain-water, a quantity of gas is obtained; state its composition compared with atmospheric air.
6. What is the usual process for obtaining ammonia? Give its composition and properties.
7. Describe the different varieties of carbon and their properties; explain the grounds on which peat charcoal is used as a fertilizer.
8. Give, in symbols, the processes for preparing carbonic acid and carbonic oxide; give their composition by weight, and their chief properties.
9. Give the process for manufacturing oil of vitriol. What are its composition, specific gravity, and properties? Why is the commercial acid frequently coloured?
10. What is the composition in equivalents and volumes of the oxygen compounds of nitrogen? State the mode of preparing nitric acid.
11. Silica, in the form of sand, is quite insoluble in water; by what means may it be rendered quite soluble, what are its properties in the soluble state, and by what further means may it be reconverted into the insoluble form?
12. What is the formula of the hydrate of common phosphoric acid? Give the mode of detecting this acid in soluble and in insoluble compounds.
13. Show the reactions by which silica, in the ashes of vegetables, may be detected by means of fluoride of calcium.
14. What is the nature of a salt?
15. Show how Al_2O_3 , FeO , CaO , KO , NH_4O , in solution together, can be separated from each other by general, and detected by special, re-agents.
16. What is the difference between clay and alumina? Give the mode of preparing the latter, its properties and formula, and state the reason for adopting such formula.
17. In what manner is the quantity of ammonia in a measure ascertained?
18. Whence is the source of the carbonic acid which is found in the ashes of plants?

21st September, 1855, 2 o'clock, p.m.

ELEMENTS OF PHYSICS.—*Examiner, G. Johnstone Stoney, A.M.*

1. If, in a system of pulleys, there be two sheaves in the movable block and two in the fixed block, prove that forces in the ratio of 4 to 1 will balance.
2. A lever, 18 inches long, has a pivot through its centre, and weights of 4 and 6 lbs. are hung from its ends, where must an additional weight of 6 lbs. be hung to produce equilibrium?
3. State the principle of work, and reconcile with it the decrease in the speed of a railway train after the steam has been cut off.
4. Explain how the earth's motion causes the change of the seasons.
5. If $\frac{1}{2}$ of a vessel be immersed when floating on water, and $\frac{1}{3}$ when floating on nitric acid, what is the sp. g. of the latter?
6. A cubic foot of stone of sp. g. 1.2 is submerged in water, with what force does it press against the bottom?

N.B.—A cubic foot of water weighs 62½ lbs.

7. If an upright tube, 4 feet long, be attached to a bladder, and the whole filled with water, what pressure per square inch tends to burst the bladder?
8. Why does no dew fall under a shed?
9. What will be the length of a bar, whose co-efficient of expansion is 0.000012 , if its temperature be raised 20° , its original length having been forty feet?
10. Prove that a convex lens will magnify.
11. Describe some experiments which establish a difference between positive and negative electricities.
12. What are the chemical reactions in a voltaic cell of copper and zinc excited by water acidulated with sulphuric acid?

22nd September, 1855, 9 o'clock, a.m.

ZOOLOGY.—*Examiner, Dr. Melville.*

1. State the physical and chemical composition of chyle, and describe its microscopic characters.
2. Describe the course of the circulation in mammals, and the mode of proof.
3. Give a sketch of the economy of life in the higher animals, and of its relations to the other kingdoms of nature; pointing out the uses of the different constituents of food, and the ultimate products of the altered tissues.
4. Give a tabular view of the sub-kingdoms and classes of the animal kingdom; state their characteristics, and give examples.

BOTANY.

1. Describe the structure, position, and uses of the cambium layer in flowering plants.
2. Define the terms:—estivation, stipule, corymb, gymnosperm, gynandria.
3. Describe the phenomena connected with the movements of the sap, and the influences which heat and light exercise on those movements.
4. Refer the plants on the table to their respective *Linnæan* classes and orders.
5. Determine the names of the grasses on the table; and state the characteristics of the order Gramineæ.

22nd September, 1855, 2 o'clock, p.m.

MINERALOGY, GEOLOGY, AND PHYSICAL GEOGRAPHY.

Examiner, J. Beete Jukes, M.A., F.R.S.

1. What are the minerals entering into the composition of "granite," "syenite," "greenstone," and "basalt," respectively?
2. Mention the minerals which enter most abundantly into the composition of the ordinary igneous and aqueous rocks in the British Islands.
3. If you found crystals of quartz, feldspar, and calc spar, how should you distinguish them from each other?
4. What mineral substances are most essential to the formation of a fertile soil?
5. Give brief general descriptions of the following rocks:—"granite," "greenstone," "limestone," "shale," "marl," "gravel," and "clay," stating which are igneous and which aqueous, which stratified, and which unstratified.
6. What do you understand by "drift"?
7. State the general relations between "drift" and other rocks, and show how far the agricultural value of land depends upon one or the other.
8. What is the practical use of fossils in geology?
9. Give an abstract of the general series of stratified rocks, mentioning any characteristic fossils of each great formation that occur to you.
10. Of what great class of stratified rocks does Ireland principally consist?
11. Describe generally the course of the gulf stream and its effect on the climate of the British Islands and Scandinavia.
12. What is the northern limit of the growth of wheat in the different countries of the northern hemisphere, and what remarkable deviations are there from the average course of this limit? State also the height above the sea at which wheat ceases to be productive in England and Ireland.

EXAMINATION FOR THE DIPLOMA OF ENGINEERING.

18th September, 1855, 2 o'clock, p.m.

DRAWING AND GEOMETRY.—*Examiner, J. England, A.M.*

1. Draw a false ellipse with five centres; span, 30; rise, 8.
2. Draw a true ellipse with the same rise and span; also, a normal to its circumference at any point.
3. Draw a parabola, on abscissa, and corresponding ordinate, being 4 and 8 respectively; also, a normal at any point in the curve.
4. A right circular cylinder is cut by a plane inclined at an angle of 30° to the axis, draw the section.

5. The same cylinder being cut by another plane parallel to the former, draw the development of the portion of the surface of the cylinder between the two planes.
6. Draw the horizontal projection of a helix on a cylinder, the diameter of the cylinder being 10, and entire length of one entire turn of the helix 40.
7. Describe the method of drawing a screw.
8. Draw the horizontal and vertical projections of a spur-wheel, the axis being horizontal and perpendicular to the vertical plane.
9. Do the same when the axis is inclined to the vertical plane.
10. Place in isometrical projection a cylinder,—the height being twice the diameter of the base.

19th September, 1855, 9 o'clock, a.m.

ENGINEERING.—*Examiner, J. England, A.M.*

1. Give a cross section of a line of railway:
 - (a.) In cutting, 10 feet clay.
 - (b.) In embankment, 15 feet.
2. Give a cross section of a turnpike road leading to a large town, with a specification of the materials required.
3. State the general principles which you would adopt to keep such a road in repair.
4. Design a road bridge to cross a river 60 feet wide,—the banks being clay for a depth of 10 feet, resting on rock; depth of river, 6 feet.
5. Give cross sections of the rails and sleepers you would adopt for a line of railway, and specifications for them.
6. Give an estimate for one cubic yard of brickwork, at the following prices:—

Bricklayers, 4s. per day.
Labourers, 1s. per day.
Bricks, 25s. per thousand.
Lime, 2s. per barrel.
Sand, 6d. per barrel.
7. Give a plan and section of the lock chamber, and gates of a canal.
8. Draw up a bill of quantities for the above.
9. Design a lattice girder bridge to carry a railway over a turnpike road, in an embankment of 25 feet.
10. Design a timber bridge for the same case.

19th September, 1855, 2 o'clock, p.m.

SURVEYING AND MAPPING.—*Examiner, J. England, A.M.*

1. Four stakes, B, C, D, and E, being driven in the ground at intervals of 100 feet apart, a level being placed—

Between B and C, reads B	= 6.46
" " " " C	= 4.32
" C and D, " C	= 7.54
" " " " D	= 5.42
" D and E, " D	= 7.22
" " " " E	= 4.43

Rule the columns of a field-book, enter the above observations, and reduce the levels,—the datum line being 100 feet below B.

2. The above being part of a section for a railway,—base 30, slopes $1\frac{1}{2}$ to 1, commencing 10 feet under stake B, with an ascent of 1 in 200,—calculate the quantity of earth in the cutting.

3. What quantity of land would be required for this cutting?
4. State the advantages of placing the level midway between the stakes.
5. Describe the method of levelling with the theodolite.
6. Describe the transit instrument and its adjustments.
7. How would you proceed to range out the centre line of a tunnel?
8. How transfer the levels from the surface of the ground to the formation level of a tunnel?
9. Describe the method of making a survey for a line of railway.
10. How would you proceed to make the survey of a town?
11. How do you determine the position of a point by means of angular observations taken at it to surrounding points, whose position is known?
12. State the defects of magnetic instruments as applied to surveying.

20th September, 1855, 9 o'clock, a.m.

MATHEMATICS.—*Examiner, Rev. Robert Carmichael, A.M., F.T.C.D.*

1. Multiply 31.72 by .003, and divide 7.06 by .02; in each case explaining the process employed by the aid of vulgar fractions.

2. A specimen of lead ore, weighing 4,000 grains, after cupellation yielded 3·7 grains of silver; calculate the number of ounces, Troy, of silver to the ton.
3. If £22 12s. pay the wages of 9 men for 18 days, calculate the amount required to pay 23 men for 5 days.
4. Extract the square root of 18 6624.
5. Two sides of a triangular field are respectively 123·2 and 76 yards, and the angle between is 49° ; calculate the area of the field, the sine of 49° being $\frac{7}{10}$.
6. The sides of a triangular field are respectively 53, 49, and 98 yards; calculate its area.
7. Calculate the logarithm of 54673243, the logarithm of 54673 being 4·7377729, and the logarithm of 54674 being 4·7377809; and explain the principle of the rule.
8. Calculate the value of $\sec 36^\circ$ to three places of decimals.
9. Find the value of x from the equation

$$\frac{3x+1}{4} + \frac{7x+2}{3} = 5x+2.$$

10. Calculate the values of x and y from the system of equations

$$\begin{cases} 2x+y=10 \\ 3x-y=19 \end{cases}$$

20th September, 1855, 3 o'clock, p.m.

MATHEMATICS.—*Examiner, Rev. Robert Carmichael, A.M., F.T.C.D.*

1. If 11 men build a wall of a given length and $7\frac{1}{2}$ feet high in 17 days, calculate the number of days which 20 men will require to build a wall of the same length and 10 feet high.

2. Solve the equation—

$$\sqrt{a+x} + \sqrt{a-x} = \frac{12a}{5\sqrt{a+z}}$$

3. a. In a given circle inscribe a regular pentagon.

- b. Point out the importance of this problem in connexion with trigonometry, and deduce by its indirect aid the numerical value of $\sin 18^\circ$ to three places of decimals.

4. a. If any similar figures be similarly described on the sides of a right angled triangle, prove that the figure described on the hypotenuse is equal to the sum of the figures described on the sides.

- b. Hence construct a circle whose area shall be equal to the sum of the areas of two given circles.

5. Prove that—

$$\sin^2\theta - \cos^2\theta = \sin^2\theta - \cos^2\theta.$$

6. Investigate the general expression for the area of a spherical triangle.

7. Investigate the general condition that two conics—

$$\begin{aligned} Ax^2 + Bxy + Cy^2 + Dx + Ey + F = 0 \\ ax^2 + bxy + cy^2 + dx + ey + f = 0 \end{aligned}$$

may be similar and similarly placed.

8. A tangent being drawn to an ellipse, and a perpendicular dropped from the centre, express the perpendicular in terms of the angles made by it with the axes.

21st September, 1855, 9 o'clock, a.m.

CHEMISTRY.—*Examiner, John Blyth, M.D.*

1. How is the specific gravity of a solid lighter than water ascertained? Illustrate by an example.

2. Water is exposed under the same circumstances to heat in vessels of gold, copper, tin, iron, silver; state the order in which the point of ebullition is attained in each vessel.

3. Explain in symbols the formation of oxygen from a mixture of chlorate of potash and peroxide of manganese. What part does the manganese play?

4. Give the different modes of preparing H; explain the reactions which take place in each case.

5. Explain the arrangement for producing an intense light by the combustion of H in O gas; explain the principle of the safety jet for preventing explosions.

6. State, in volumes, the composition of the atmosphere, the specific gravity of its two chief gases, and the law in virtue of which an intimate mixture of the two is formed.

7. Under what circumstances do N and O unite directly?

8. How are CO₂ and CO prepared? Give their properties.

9. What are the modifications of silicic acid, and how may they be converted into each other.

10. What is meant by the terms "permanent" and "temporary" hardness in waters? Explain Clark's method for rendering waters soft.

11. What is the function of sand in ordinary mortars? What chemical changes take place in the latter on solidification by long exposure to the air?

12. What is the essential difference between a hydraulic and an ordinary limestone?

13. What is the composition of gypsum before and after burning? To what temperature ought it to be exposed to form "plaster of Paris," and what is the effect of exceeding this point?
14. In what respect does steel differ from cast and malleable iron? Give the process for converting iron into steel.
15. Arrange the following metals—platinum, gold, silver, iron, lead, zinc, copper, tin, in the order—1st, of their malleability; 2nd, of their ductility; and state the manner of ascertaining their tenacity.
16. Give shortly the process for extracting zinc from calamine: state its chemical properties, and its relation to heat at different temperatures.
17. What is meant by allotropic forms of bodies? Give examples and show how they are produced.
18. What is meant by the neutrality of an oxy-salt? State the rule for such neutrality.

21st September, 1855, 2 o'clock, p.m.

NATURAL PHILOSOPHY.—*Examiner, G. Johnstone Stoney, A.M.*

1. How may an inequality in the arms of the beam of a pair of scales be detected and its magnitude determined, and in what way can you weigh accurately with such scales?
2. Show that the path of a projectile in a vacuum would be a parabola.
3. What attraction towards the sun would be needed to retain the earth in a circular orbit of 95,000,000 miles radius, with a uniform velocity of nineteen miles per second?
4. If half of a vessel be immersed when floating on sulphuric acid of sp. g. 1.8, and $\frac{1}{2}$ when floating on weak nitric acid, determine the sp. g. of the latter.
- 5 a. What puts a limit to the exhaustion which can be effected by the air pump?
- b. Why is the labour of attaining a given vacuum much less with the double-barrelled air-pump than with the common single-barrelled instrument?
- 6 a. Explain how the same materials which form warm clothing will serve to keep ice cool.
- b. What arrangements of a thermometer make it a sensitive instrument, and what make it highly impenetrable?
- 7 a. Show that a convex lens will magnify.
- b. Point out why a micrometer cannot be adapted to a Galilean telescope.
8. Describe some experiments which establish a difference between positive and negative electricities.
9. Point out why a voltaic battery of small cells should be preferred to a single large cell for telegraphic purposes.

21st September, 1855, 2 o'clock, p.m.

PRACTICAL MECHANICS.—*Examiner, G. Johnstone Stoney, A.M.*

1. Explain how wheels under a carriage reduce the work to be done in overcoming friction.
2. Prove that (neglecting the resistance of the air) the work done in moving a carriage up a rough incline = the work done in raising it through the height of the incline + the work done in moving it along a horizontal road, of equal roughness, through a distance equal to the base of the incline.
3. Which of the advantages which the steam pile-driving engine has over the common ram may be referred to the difference between stationary and rubbing friction?
4. a. State the principle of work, and illustrate it from the motion of railway trains.
- b. Point out the source of the power which overcomes the resistances during the time that the speed is decreasing, after the steam has been cut off.
5. Enumerate the chief sources of useless work in water-mills.
6. Find the power accumulated in a wheel weighing a ton, and making five rotations per minute, if its radius of gyration be four feet.
7. Explain why a fly-wheel tends to equalize the motion of machinery.
8. Prove that the area of the figure traced by Watt's indicator, multiplied by the number of strokes made by the engine per minute, is proportional to the horse-power of the engine.
- 9 a. Define the expressions, *duty*, *horse-power*, and *efficiency* (or *modulus*), applied to engines.
- b. To what precautions in the construction and management of Cornish engines is the amount of their duty attributable?

22nd September, 1855, 2 o'clock, p.m.

MINERALOGY, GEOLOGY, AND PHYSICAL GEOGRAPHY.

Examiner, J. Beete Jukes, M.A., F.R.S.

1. What are the minerals entering into the composition of "granite," "syenite," "greenstone," and "basalt" respectively.
2. Describe the external characters and general chemical composition of the principal minerals in the felspar family, such as orthoclase, albite, oligoclase, labradorite, &c., &c.
3. What is "kaoline?"

4. Describe the rocks "sandstone," "conglomerate," "clay," "slate," and "limestone," mentioning any peculiar varieties of each.
5. Describe the principal characters of stratified and unstratified rocks, and their method of formation?
6. What do you mean by the terms "dip," "strike," "lamination," "cleavage," "joint," "fault," "vein?"
7. Mention any circumstances that occur to you in the composition or structure of rocks that are likely to impair their durability as building stones.
8. What is the practical use of fossils in geology?
9. Give an abstract of the series of stratified rocks, with such of the characteristic fossils of each great formation as occur to you.
10. Being asked to give an opinion as to the chance of obtaining coal by sinking through a dark grey shale containing the following fossils:—*Strophomena* (*Leptæna*) *depressa*; *Strophomena* (*Leptæna*) *englypba*; *Orthis biloba*; *Rhynchonella* (*terebratula*) *Wilsoni*; *Calymene Blumenbachii*; *Halyxites* (*catenipora*) *catenulatus*, or any one of them, what would be your answer?
11. If instead of the above fossils the shale contained fragments of *Belemnites* or *Gryphaea incurva*, or pieces of *Ammonites*, what opinion should you give?
12. Describe generally the "monsoons," and the wet and dry seasons of India, and their proximate causes.

EXAMINATION FOR HONORS IN ENGINEERING.

26th September, 1885, 9 o'clock, a.m.

THEORETICAL AND PRACTICAL MECHANICS.—*Examiner, G. Johnstone Stoney, A.M.*

1. Investigate the strains to which a fixed axis of rotation is subjected during the motion.
2. Show that it is essential to the equilibrium of gases that the temperature should be constant throughout each *couche de niveau*.
3. A particle is projected into a medium resisting as the square of the velocity: find its position and velocity in terms of the time.
4. A uniform plank leans against a wall, given the length of the plank and the coefficients of friction between it and the wall and ground; investigate the limiting position of equilibrium.
5. Prove that the force is central if the area swept out by the radius vector be proportional to the time.
6. Prove that the normal force solliciting a free particle = $\frac{v^2}{r}$, where r is the radius of curvature of its path.
7. Investigate the reduction of pressure which may exist at a contraction in a tube transmitting a fluid.
8. If two rods of the same material be similar, what is the ratio of their powers to resist a twisting force?
9. Show that if friction, &c., could be neglected, an infinite velocity would give the maximum effect in a reaction turbine.
10. Whence arise the terms containing the first and second powers of the velocity in the expression of the efficiency of a locomotive engine.
11. A wheel, whose weight is a ton, and radius of gyration four feet, is started with a velocity of five rotations per minute, and makes 100 rotations before stopping, what is the coefficient of friction if its pivots be three inches in diameter?
12. Suppose that the pulley of an Atwood's machine is a uniform disk, and that you know its weight, radius, and coefficient of friction, and the weights which are hung over it, investigate the motion, neglecting the rigidity of the cord, &c.

26th September, 1885, 2 o'clock, p.m.

NATURAL PHILOSOPHY.—*Examiner, G. Johnstone Stoney, A.M.*

- 1 a. If a cubic inch of iron be thrown into a vessel containing mercury and water, how much will be immersed in the mercury?
 - b. What weight of iron must be attached to 4 lbs. of cork to make it lose its buoyancy in water?
- N.B.—Sp. g. iron = 8. Sp. g. mercury = 13½. Sp. g. cork = ½.
- 2 a. Explain why applying resin to a violin bow increases its efficiency.
 - b. Why is the musical tone of a bell alone heard at a distance, while near at hand the clang of the hammer may exceed it?
 3. From what experiments and observations is it known that gravity is a molecular property of matter?
 4. Explain the construction and action of a Nicol's prism.
 5. Give an account on the wave theory of the colours of thin plates of a double refracting crystal in the polariscope.
 - 6 a. In charging a condenser with electricity by induction, the result is the same whatever part be put in communication with the ground. Explain this.

5. How may positive and negative electricities be distinguished by the gold leaf electroscope?
7. If a cylindrical bottle, a foot high, and with a very narrow mouth, be partially filled with water, and then gently inverted, a little of the water will flow out and the rest will be retained by the pressure of the air; if the bottle be then observed to be half full of water, determine the quantity which flowed out.
8. By what experiments may the latent heats of water and of steam be determined?
9. Show that the magnifying power of a telescope given by Ramsden's dynameter $+\frac{F}{\lambda}$ will be the magnifying power of the instrument to a person whose distance of distinct vision is λ , F being the focal length of the telescope.
10. Prove that a combination of thin lenses in contact, which is achromatic for any one distance, is so for all distances.
11. A pond, of equal depth throughout, appears to a spectator shallower at a distance than near at hand. Explain this.
12. Show that the field of view of a telescope or compound microscope will be a maximum when the pupil of the eye is placed at the image of the object-glass formed by the eyepiece.

27th September, 1855, 9 o'clock, a.m.

CHEMISTRY.—*Examiner, John Blyth, M.D.*

1. State why water usually begins to freeze at the surface; explain under what conditions this process may be reversed, so as to dam up streams, and cause their overflow.
2. Explain the theory of the artificial production of nitre.
3. What is the composition of gunpowder? Why cannot nitrate of soda, or chlorate of potash, be substituted for nitrate of potash, in its manufacture?
4. A piece of polished iron is exposed to moist air, beside another piece of the same kind on which is a small spot of rust: give an explanation of the different effects produced.
5. Describe the process for galvanizing iron; explain the principle on which its action depends.
6. State the law of isomorphism; give examples, in symbols, of isomorphous salts.
7. Give the reasons for the products which are obtained on evaporating the following solutions:—1st, a mixture of protosulphate of iron, and of sulphate of copper; 2nd, the same mixed solution into which a current of chlorine has been passed, previously to evaporation.
8. Explain the American and German metallurgical processes for silver.
9. In what manner would an alloy, containing silver, copper, tin, and iron, be analyzed qualitatively and quantitatively?
10. Give the preparation, composition, and properties of corrosive sublimate. How is it applied in the process of "Kyanizing," and to what property may its antiseptic virtues be ascribed?
11. Mention the composition of the most important fulminating powders: state the mode of preparing the compound used in making percussion caps.
12. Chlorate of potash and sulphuric acid were found in the fuses of the Russian "infernal machines;" explain their action.

27th September, 1855, 2 o'clock, p.m.

SURVEYING AND MAPPING.—*Examiner, J. England, A.M.*

1. Describe the method of measuring the base line of a trigonometrical survey, and of reducing the measured base to the sea level.
2. When in a trigonometrical survey the three angles of one of the triangles exceed 180° , how would you calculate this triangle?
3. Describe the method of making the survey of a tidal river.
4. How would you lay out railway curves with the chain and theodolite? Calculate the angle which a chord of $\frac{1}{2}$ chain subtends in a circle where radius is 20 chains?
5. How would you lay out half widths on the side of a hill?
6. Describe the method of determining the "hydraulic mean depth" and "mean velocity" of a river.

28th September, 1855, 9 o'clock, a.m.

CIVIL ENGINEERING.—*Examiner, J. England, A.M.*

1. State the precautions you would adopt to prevent slipping of a railway embankment formed on the side of a hill.
2. Give a design for a tubular girder bridge, 60 feet span.
3. Also for a lattice girder bridge of the same span.
4. Give an estimate and specification for either of the above cases.
5. Give a design for an iron roof for a railway passenger shed, 60 feet span.
6. Give a specification for the materials employed in the preceding.
7. Required the discharge over a weir 20 feet in length, and depth of water 6 inches.
8. Required the diameter of a pipe capable of discharging 100 gallons per minute, with a fall of 2 feet per mile.

28th September, 1855, 2 o'clock, p.m.

MINERALOGY, GEOLOGY, AND PHYSICAL GEOGRAPHY.

Examiner, J. Beets Jules, M.A., F.R.S.

1. Describe in general terms the external characters and chemical composition of the following minerals:—Quartz, common feldspar, mica, hornblende, augite, olivine.
2. Define "quasiveral dip," "anticlinal and synclinal line," "contortion," "inversion," and "denudation."
3. What are "gneiss," "mica schist," and "primary limestone?" and how did they become what they are?
4. Give the chemical composition of "serpentine;" state its use, and mention the principal localities where it occurs in the British Islands.
5. What is a mineral vein?
6. There is a general rule as to the inclination of faults, and the intersection of mineral veins, by which the direction of the "shift" or "throw" can be calculated on; state this rule, and explain it by means of diagrams.
7. What form will the angular blocks of columnar basalt assume on weathering, and what is the origin of that form?
8. What are the subdivisions of the carboniferous system of Ireland, as given by Dr. Griffith, in his geological map?
9. Explain the geological structure on which the possibility of artesian wells depends.
10. In travelling by railway from Cheshire or from Devonshire to London, we meet with few or no tunnels till we pass Birmingham on the one line and Bristol on the other; but there are several large tunnels both between Birmingham and London and Bristol and London: describe the great features in the geology and physical geography of that part of England which rendered these circumstances inevitable.
11. We pass by railway from Dublin, across Ireland, to Galway, to Limerick, and to Cork, without tunnels, and without any deep cuttings: describe so much of the geology and physical geography of Ireland as shall explain the possibility of thus crossing from sea to sea in Ireland, while it would be almost impossible thus to cross any part of England.

29th September, 1855, 2 o'clock, p.m.

DRAWING AND DESCRIPTIVE GEOMETRY.—*Examiner, J. England, A.M.*

1. Draw the horizontal and vertical projections of the heading and coursing spirals of an oblique arch, the arch being semicircular on the square, angle of skew 45° , span on the square 30 feet.
2. Draw the joints on the face of this arch.
3. Determine the angle which one of these joints makes with the corresponding joint on the soffit.
4. How (geometrically) would you reduce an angle to the horizon?
5. Draw the curve of intersection of a right circular cylinder and sphere.
6. Also of a right cone and cylinder.
7. Give an isometrical drawing of a bridge for a railway in a 20 feet cutting.

1st October, 1855, 9 o'clock, a.m.

MATHEMATICS.—*Examiner, Rev. Robert Carmichael, A.M., F.T.C.D.*

1. Investigate the cube root of 80621568.
2. Convert into a decimal shape—

$$3 + \frac{1}{7 + \frac{1}{14}}$$

point out the significance of the result, and demonstrate the truth of the interpretation.

3. Investigate the numerical value of the Napierian base, namely, $e = 2.7182818$.
4. Plan a folding ruler by which any angle may be instantly trisected, mechanically.
5. Construct geometrically a circle whose area shall be equal to the sum of the areas of three given circles.
6. If a triangle be inscribed in a given circle so that one side may pass through a given point, prove that the remaining sides intercept on the polar of the point segments which, measured from the middle of the polar, contain a constant rectangle.
7. Among all triangular pyramids of given base and altitude, find that which has the least surface.
8. Investigate the general functional equation of a surface of revolution described round an axis passing through the origin, and making with the axes of co-ordinates angles l, m, n .
9. Explain the principle of conversion of mixed circulating decimals into vulgar fractions, and apply it to the decimal $.23\overline{167}$.

1st October, 1855, 2 o'clock, p.m.

MATHEMATICS.—*Examiner, Rev. Robert Carmichael, A.M., F.T.C.D.*

1. If a body revolve in an ellipse under the action of a force directed to the centre, investigate by Newton's method the law of force.

2. Investigate the characteristic property of the periodic time of revolution in this case.
3. Explain the construction of a horizontal sun dial, and investigate the formula which determines the extreme hour line.
4. Given the sun's azimuth at setting, and his altitude at six o'clock, find the latitude of place and declination of sun.
5. Investigate the general expression for the solid contents of a sphere.
6. Integrate—

$$\frac{dx}{a^2 + x^2}$$

7. Express Newton's "law of cooling," namely, that the quantity of heat lost by a body, in a given time is proportional to the excess of heat in the body over that in the surrounding medium, by a differential equation, and integrate this equation.
8. Write down the general equation of a spheroid, and investigate the expression for its solid contents.

EXAMINATION FOR DIPLOMA IN ELEMENTARY LAW.

26th September, 1855, 9 o'clock, a.m.

LAW OF PROPERTY AND PRINCIPLES OF CONVEYANCING.—*Examiner, Professor Barry.*

1. What comes under the legal definition of "land?"
2. Explain the maxim, that all lands belonging to any subject are held of the Crown, either mediately or immediately.
3. Define an estate, in fee simple, and explain the exact meaning of the expression, "*seised in his demesne*," as of fee.
4. Land is given, by deed, to *A* and his *Assigns* for ever. What estate does *A* take?
5. Explain the effect of the statute "*De Donis Conditionalibus*" upon estates limited to a man and the heirs of his body, and what was the occasion of this statute?
6. Land is given, by deed, to *A* and his heirs male, who dies, leaving a daughter only; what is the effect of such a limitation? and what would be the construction of the same words, if contained in a will?
7. Define an estate at will, and state why it is that tenancies, from year to year, have been, in modern times, more usual than tenancies at will.
8. If *A* be tenant from year to year to *B*, will the tenancy be determined by the death of either *A* or *B*?
9. Give some account of the statute of "uses," the reasons which led to its enactment, and the consequences to which it gave rise. How is this statute usually cited or described in conveyances and in pleadings?
10. What solemnities were prescribed by the statute of frauds to render valid a devise of real estate? How have they been altered by the new statute of wills? To what wills, in point of date, does the latter statute apply?
11. What are the two species of conveyances by matter of record?
12. What is an enfeoffment?
13. What are the three different species of rent at common law? and how may rents be created?
14. Can incorporeal hereditaments pass by feoffment? Do they lie in grant or in livery?

26th September, 1855, 9 o'clock, a.m.

JURISPRUDENCE.—*Examiner, T. E. Cliffe Leslie, LL.B.*

1. Define municipal law, common law, equity.
2. What is, according to Lord Bacon, the relation between public and private law?
3. State the views of Bentham and Reddie respecting the distinction between civil and criminal law.
4. Explain the following phrases, and state your opinion as to the propriety of the distinctions they denote—*iusstitia attributrix* and *explicatrix*, perfect and imperfect rights, rights of things and rights of persons, things real and things personal.
5. Explain clearly the nature of the change effected in the laws of France by the Code Napoleon, and the objections to its introduction into Germany.
6. Explain the method and uses of analytical jurisprudence.
7. Explain the method and uses of historical jurisprudence.
8. What is your opinion as to the antiquity of the common law of England?
9. When and why was the Court of Common Pleas established?
10. To what period do you assign the establishment of the modern form of trial by jury, and what was the province of the jury in more ancient times?
11. Explain the nature of the changes made by recent statutes in the law of evidence, and the principle on which the previous state of the law was founded.
12. How is the difference between the Roman and the English law of inheritance to be accounted for?

26th September, 1855, 2 o'clock, p.m.

EQUITY.—*Examiner, Professor Barry.*

1. Of what two distinct tribunals does the Court of Chancery consist? and at what period did its jurisdiction as a court of equity begin to be established?
2. What estate in the property mortgaged has a mortgagor in equity? and what is the proceeding or suit in Chancery called which the mortgagee must take to extinguish such equitable estate?
3. What is an equitable mortgage, and how may it be created?
4. What classes of subjects are exclusively dealt with by equity? and over what have law and equity a concurrent jurisdiction?
5. What is the distinction between the relief afforded in a court of equity upon the breach of a contract relating to land, from that given in a court of law?
6. How may a cause in equity be instituted? and what kind of pleading may be its commencement in the Court of Chancery in this country?
7. When are the proceedings in equity commenced by *information*? and in whose name?
8. What is a demurrer in equity? and what are the other forms or modes of defence in equity?
9. What is the object and effect of a suit "*ne exeat regno*?" For what kind of debt may it be instituted?
10. Upon what principle is the jurisdiction of a court of equity in suits for the administration of assets founded?
11. What is an injunction in equity? Mention some of the purposes for which it is usually obtained.

26th September, 1855, 2 o'clock, p.m.

COMMON LAW AND CRIMINAL LAW.—*Examiner, Professor Barry.*

1. Into what two kinds may the municipal laws of England and Ireland be divided?
2. To what date does the phrase "*a time whereof the memory of man runneth not to the contrary*," refer?
3. Give some examples of general customs. What requisites are essential to the validity of a particular custom?
4. Into what kinds may statutes be divided? Explain the difference between a declaratory, a penal, and a remedial statute; also between what are known as enlarging, and enabling, and restraining, and disabling acts.
5. To what extent is the common law obligatory in a country discovered and colonized by British subjects?
6. What is a simple contract? Under what circumstances is it essential that a simple contract should be in writing? What matters are essential in simple contracts, the insertion of which is dispensed with in specialties?
7. Define a crime, and distinguish between a civil injury and a crime. How does the law deal with each respectively?
8. What is the meaning of the term "*felony*?" Define a *misdeemeanor*.
9. At what age may an infant be guilty of felony? and between what ages is his capacity for crime taken into consideration?
10. What is the distinction between a principal in the *first* and in the *second* degree? and what is to be understood by the presence requisite at the commission of the crime to render a man a principal of the latter kind?
11. Define an *accessory*. Why can there be no accessories in *treason* or in *misdeemeanors*?
12. In order to constitute the crime of murder, within what time from the cause of death must the death actually take place?
13. Of what cases has the Crown side of the Queen's Bench cognizance? and what are the different methods of trial in this court?
14. How many of the grand jury must agree before a bill of indictment can be found?
15. How many jurors may a prisoner on his trial for *treason* or *felony* challenge peremptorily?

26th September, 1855, 2 o'clock, p.m.

CIVIL LAW.—*Examiner, T. E. Chife Leslie, LL.B.*

1. Define the phrase *ius civile* in its strictest sense, and also as opposed to *ius gentium*.
2. The long divorce of law and equity was at length reconciled, and instead of the twelve tables the perpetual edict was fixed on as the invariable standard of civil jurisprudence (Gibson). Explain the words in italics, with dates.
3. Describe the contents of the code, pandects, institutes, and novels, respectively.
4. Explain the classification of law under the heads of persons, things, and actions; and state your opinion of the propriety of this classification.
5. Explain the law of *accessio*, and give an example.
6. Give an example of a *quasi contract*.
7. Give an example of a *quasi delict*.

8. Define a *codicil*, and state the origin of this mode of disposition.
9. Mention some of the principal events in the history of the Roman law, in the eastern empire, and in western Europe, after the time of Justinian.
10. How was the Roman law first introduced into England?
11. When was it excluded from the courts of common law?
12. Does the fact referred to in the last question account for any peculiarities in the English legal system?

EXAMINATION FOR HONORS IN ELEMENTARY LAW.

27th September, 1855, 9 o'clock, a.m.

LAW OF PROPERTY AND PRINCIPLES OF CONVEYANCING.—*Examiner, Professor Barry.*

1. Define an estate in reversion. What are said to be the usual incidents to reversions? When is the reversioner said to be seized of the reversion as of fee, and when seized of the land in his demesne of fee?
2. Describe the doctrine of "*remitter*."
3. Why cannot a remainder be limited after the grant of an estate in fee simple?
4. At what time must a contingent remainder vest in reference to the particular estate?
5. What gave occasion to the introduction in settlements of trustees to preserve contingent remainders? What was the nature of this invention, and by whom was it originated?
6. Are any peculiar words, whether of licence or agreement, essential to the form of a lease? By what rule are words in a lease construed, if the words be ambiguous?
7. What is the rule touching the admission of parol evidence to vary or explain the words of a deed?
8. Enumerate the usual covenants in a common lease, and distinguish such as are considered as "*covenants running with the land*." By what statute is an assignee of the reversion or of the lease enabled to sue on such covenants respectively? Refer to the case in which it has been held that the object of a power of appointment, contained in a devise of and affecting the reversion, is an assignee in law, within the meaning of the act.
9. Describe a power simply collateral, appendant, and in gross. What regulates the relative priority of an estate or interest derived under a power conferred by a deed prior in date to the instrument exercising it?
10. A and B hold an estate in fee as joint tenants. B dies, having by will devised his share to C. What estate or interest does C take under B's will?
11. Before the enactment of the 7 Wm. IV., and 1 Vict., c. 26, how did a will operate upon personal estate acquired subsequently to its execution? Did it operate in the same manner upon after-acquired realty? Is there any and what distinction in the effect of wills in this respect executed since the passing of the act?

27th September, 1855, 9 o'clock, a.m.

JURISPRUDENCE.—*Examiner, T. E. Cliffe Leslie, LL.B.*

I.—ANALYTICAL JURISPRUDENCE.

1. a. What is the line of demarcation between public and private law?
- b. Do questions relative to the mode of trial by jury belong to public or private jurisprudence, or to both?
2. State briefly what appear to you to be the principal arguments for and against the policy of the English law respecting the unanimity of juries.
3. What are the chief deficiencies in the jurisdiction of the Courts of Common Law?
4. Formerly suitors could, by certain forms of pleading, resort to whichever of the superior courts of law they preferred. Did any advantages follow, on the principles of Bentham, from this power of selection?
5. Can you suggest, from the writings of Bentham, any improvements in the judicial establishments of this country?
6. State briefly what you know of the nature and effects of the modern codes of France, Austria, and Prussia.

II.—HISTORICAL JURISPRUDENCE.

1. a. To what juridical period do you refer the establishment of the English County Courts?
- b. What causes led to the decline, and recent revival of the importance of their jurisdiction?
2. Mention the principal improvements in judicial organization, from the Norman Conquest until the reign of Edward I., fixing, as accurately as you can, the period of each.
3. Mention the principal legal writers and treatises during the time specified in the preceding question.
4. State the principal changes which the law has undergone with respect to the alienation of entailed estates, from the time of Henry III. to that of William IV.
5. Trace, as accurately as you can, the history of the right of devising lands.
6. "It was justly observed by one of the judges, in the reign of Henry VI., that if actions

on the case had been allowed by courts of law as often as occasion required, the writ of subpoena would have been unnecessary; or, in other words, the whole of the present jurisdiction of the Court of Chancery would have been part of the ordinary jurisdiction of Courts of Law. But, unfortunately, the spirit of the Statute of Westminster the Second was not carried out by the judges."—*Address of Sir R. Bethell to the Juridical Society, 12th March, 1855.*

- a. What enactment is referred to in the last sentence of this passage?
- b. What was the writ of subpoena, and when invented?
- c. Explain the observation, that if notions on the case had been allowed as often as required, the Courts of Law would have possessed the jurisdiction which became peculiar to the Court of Chancery.

27th September, 1855, 2 o'clock, p.m.

EQUITY.—Examiner, Professor Barry.

1. Point out the fallacy of the notion that Equity is intended to abate the rigour of the Common Law, and explain why it should rather be regarded as ancillary to it.
2. State the cases in which Equity gives a married woman a provision out of her choies in action in derogation of the legal right of her husband, or his assignee.
3. If the assets are insufficient to pay the whole of the debts of the testator, what power has the executor to prefer one creditor to another?
4. What is meant by the abatement of legacies? and in what order do they abate?
5. What is meant by marshalling assets?
6. How is a suit in Equity instituted on behalf of an infant?
7. Give an instance illustrative of the doctrine that Equity considers what ought to have been done as having been actually done.
8. In favour of what parties will Equity remedy the defective execution of powers?
9. What distinctions are to be taken into consideration when relief is sought upon the ground of mistake?
10. Upon what principle is the doctrine of *satisfaction* founded?
11. What is a bill of discovery? Mention the cases in which a defendant or respondent may refuse discovery.
12. In what cases is a bill of revivor, or a supplemental bill, necessary? What form of pleading has been given by the Court of Chancery Regulation Bill (Ireland) in lieu of a bill of revivor?

27th September, 1855, 2 o'clock, p.m.

COMMON LAW AND CRIMINAL LAW.—Examiner, Professor Barry.

1. What was monopoly at Common Law? and what is the longest period for which any patent right can be granted?
2. In what cases may a married woman sue at law without her husband? and in what cases must the husband and wife be co-plaintiffs?
3. State the resolutions in *Croger's case* (8 Co., 66), as to replications "*de injuria*." In what cases can it be replied?
4. A sells to B a debt due to A. Can B enforce payment of the debt, and how? Explain the effect of the debtor's agreeing to the transfer of his liability, and distinguish it from mere notice of the sale to the debtor.
5. When there is a verdict for a plaintiff, what is requisite to entitle him to costs as incident to the verdict? In what cases must the certificate of the judge be obtained to entitle a plaintiff to costs?
6. Enumerate the existing writs of execution at Common Law, and explain the differences between them. What is the distinction between an extent in chief and an extent in aid?
7. What statute principally regulates the law of high treason? What are misprisions, and into what two sorts does the law divide them?
8. What is the substance of the provisions contained in 11th and 12th Viet., c. 12, for the better security of the Crown and Government?
9. Explain the different kinds of homicide, and their degrees of guilt.
10. During what time must the act be done to constitute the crime of *burglary*? and what ambiguity has been removed by the 7 Wm. IV., and 1 Vict., c. 86, s. 4?
11. Give the effect of 14th and 15th Viet., c. 100, s. 8, in reference to the allegation of the intent of the defendant in indictments for forgery.
12. When may a judgment be reversed by a writ of error? and what distinction in reference to this writ exists between a judgment for felony and one for a misdemeanor?

27th September, 1855, 3 o'clock, p.m.

CIVIL LAW.—Examiner, T. E. Chife Leslie, LL.B.

1. In what doctrines of the law of England do you find the most remarkable resemblances to the civil law?
2. In what points do you find the most remarkable differences between the two systems?
3. What are, in your opinion, the chief merits of the Roman law?
4. What do you consider its chief defects?

5. "The Rhine," said Napoleon I., "is mine, and the land through which it flows: Holland is formed wholly by the deposit of the Rhine, as the Delta of Egypt is by that of the Nile; therefore Holland belongs to me" (*Colquhoun's Civil Law*). State the principles of the civil law applicable to this claim, assuming the facts to be as stated in the foregoing passage.

6. Explain the contract of mandate, and mention any principles of mercantile and international law which have been derived from the Roman doctrines relative to this contract.

7. Explain the origin and nature of *fidei commissum*.

8. What is the contract of *bettonary*, and how termed in Roman law?

9. What were the functions of the *judices selecti*?

10. The Roman law affords a model of preventive justice, from which very important branches of the jurisdiction of the Court of Chancery appear to have been drawn?

11. The interval from the twelve tables to the time of Justinian is divisible into three distinct juridical periods?

12. Mention the names of the principal Roman jurists during the second of those periods, and in the time of Justinian.

APPENDIX III.

DEGREES AND DIPLOMAS.

1. For the Degree of Doctor in Medicine.

William Aickin, Belfast.

John Martin Coates, Belfast.

James Cuming, Belfast.

John McNaile Donnelly, Cork.

Richard Eaton, Galway.

Robert Ferguson, Cork.

Christopher Joynt, Galway.

Edmund Lawrence Monson Larken,
Cork.

Owen O'Hare, Belfast.

2. For the Degree of LL.B.

David Ross, A.M., Belfast.

3. For the Degree of Master in Arts.

David Graham Barkley, Belfast.

William Bole, Belfast.

John Duggan, Cork.

Robert Johnson, Belfast.

4. For the Degree of Bachelor in Arts.

Robert James Arnold, Belfast.

Henry Donovan, Cork.

James Gibson, Belfast.

Charles J. Hooper, Galway.

James Lalor, Galway.

Charles Lane, Cork.

James Stuart Land, Cork.

John Ferguson McCallan, Belfast.

William Mc Cormac, Belfast.

James McCully, Belfast.

Joseph Allan Millar, Belfast.

John Moorhead, Galway and Belfast.

Richard O'Leary, Cork.

Edmund J. Palmer, Cork.

Francis Petticrew, Belfast.

George McCallagh Reed, Belfast.

William John Taggart, Belfast.

Raymond West, Galway.

James Young, Belfast.

5. For the Diploma of Elementary Law.

Robert Johnson, A.M., Belfast.

Alexander Deaves Kennedy, Cork.

William Mason, Galway.

James Dunno Parker, A.B., Belfast.

6. For the Degree of Engineering.

Michael O'Kinoaly, Galway.

7. For the Diploma in Agriculture.

Charles O'Hare, Galway.

8. For Certificate of having passed first Medical Examination.

James Matthews, Belfast.

Edward M'Sheehy, Cork.

William Roche Rice, Cork.

DISTRIBUTION OF HONORS.

IN THE FACULTY OF ARTS.

A.M.—HONORS.

1. Classics.

Honor—An Exhibition of £15, and a Gold Medal, William Bole, A.M.

2. English Philology and Criticism, Logic, Metaphysics, or Political Economy and Jurisprudence.

Honor—An Exhibition of £15, and a Gold Medal, Robert Johnson, A.M.

M

3. *Mathematical and Physical Sciences.*

Honor—An Exhibition of £15, and a Gold Medal, . . . John Duggan, A.M.

4. *Experimental and Natural Sciences.*

Honor—An Exhibition of £15, and a Gold Medal, . . . David Graham Barclay, A.M.

A.B.—HONORS.

1. *Ancient Classical Languages and Literature.*

1st Honor—An Exhibition, value £15, and a Gold Medal, Raymond West, A.B.

2nd Honor—An Exhibition, value £10, . . . Richard O'Leary, A.B.

2. *English Language and Literature.*

Honor—An Exhibition, value £10, and a Gold Medal, . . . James Gibson, A.B.

3. *Modern Foreign Languages.*

1st Honor—An Exhibition, value £15, and a Gold Medal, Francis Petticrow, A.B.

2nd Honor—An Exhibition, value £10, . . . Robert J. Arnold, A.B.

4. *Mathematics.*

1st Honor—An Exhibition, value £15, and a Gold Medal, E. J. Palmer, A.B.

2nd Honor—An Exhibition, value £10, . . . Joseph Allan Miller, A.B.

5. *Natural Philosophy.*Mathematical Physics Honor—An Exhibition, value £15,
and a Gold Medal, . . . E. J. Palmer, A.B.Experimental Physics Honor—An Exhibition, value £10,
and a Gold Medal, . . . Raymond West, A.B.6. *Chemistry, and Chemical Physics.*

Honor—An Exhibition, value £15, . . . John Moorhead, A.B.

7. *Natural Sciences.*

Honor—An Exhibition, value £15, and a Gold Medal, . . . John Moorhead, A.B.

8. *Logics and Metaphysics.*

Honor—An Exhibition, value £15, and a Gold Medal, . . . John Ferguson McCallan, A.B.

9. *Jurisprudence and Political Economy.*

Honor—An Exhibition, value £15, and a Gold Medal, . . . Charles J. Hooper, A.B.

10. *Engineering.*

Honor—An Exhibition, value £10, and a Gold Medal, . . . Michael O'Kinsely.

IN THE FACULTY OF MEDICINE.

1st Examination in Medicine: an Exhibition, value £10, . . . Wm. Roche Rice.

IN THE FACULTY OF LAW.

1. *Elementary Law.*

Honor—An Exhibition of £10, and a Gold Medal, . . . Alexander D. Kennedy.

By the power conferred on the Chancellor and Senate to admit Graduates of other Universities to similar and equal Degrees in the Queen's University, the Degree of Doctor in Medicine was on this occasion granted to the two following gentlemen:—

Robert Crothers, M.D., C.M., Surgeon to the Royal Tyrone Artillery.

Charles Croker King, M.D., F.R.C.S.I., M.R.I.A., Professor in the Queen's University.

APPENDIX IV.

ORDINANCE regulating the CONDITIONS, FORMS, and SUBJECTS of the DEGREE, DIPLOMA, and HONOR EXAMINATIONS for the Year 1856.

GENERAL REGULATIONS.

The General Examination will commence on Tuesday, the 16th September, 1856, and will be carried on in the order prescribed in the annexed Tables.

This Examination will be principally by printed papers, with such *visu voce* interrogation as the Examiner may deem necessary. The Honor Examination is to be solely by printed papers.

Candidates will be required to answer for Degrees and Diplomas in all the subjects prescribed by the Ordinances for their respective courses, save where an option is given herein.

The Honor Examination will be similarly conducted (except where specially provided for), the questions being of a higher character.

The following Fees to the University are to be paid by the respective Candidates to the Secretary, before the Examination; they are not returnable in case of rejection, but are not required again for re-examination:—

DEGREES.		DIPLOMAS.	
L.L.D.,	£3	Engineering,	£3
M.D.,	5	Elementary Law,	2
A.M.,	3	Agriculture,	2
L.L.B.,	1		
A.B.,	1		

The Names of Candidates obtaining Degrees or Diplomas will be published in alphabetical order; those of Candidates obtaining Honors in the order of merit.

The Examiners having passed Candidates for Degrees or Diplomas, shall select from them those whom they consider deserving of being examined for Honors, and shall return their names to the Secretary, with the result of the General Examination. None others shall be entitled to compete for Honors, save for those in the Celtic, Sanscrit, or Arabic Languages, for which any Candidate who has passed for a Degree may present himself as a competitor, these subjects not requiring a preliminary examination.*

Students passed for the Degree of A.B., may be examined for Honors in more than one department.

The Examiners are to recommend for Honors solely on the ground of absolute merit. If, consequently, Honors shall be withheld in any one branch of study, the Senate may, on the recommendation of the Examiners, apply the amount to increase those in any other department.

Candidates must furnish to the Secretary, through their respective Registrars, on or before the 1st of September, the several Certificates required by the Ordinances; for this purpose they will be supplied by the Registrars with proper Forms and Schedules.

All Degrees and Honors are conferred at the Public Meeting of the University.

FACULTY OF ARTS.

EXAMINATION FOR THE DEGREE OF BACHELOR OF ARTS, and for HONORS in that FACULTY.

Every Candidate will be required to answer for the Degree of A.B. in the subjects included in the Group A. of the following Table, and also to answer in the subjects of one of the three groups of subjects marked B. C. D. respectively; the Candidate being allowed to select.

1. GROUP A.—REQUIRED FROM ALL CANDIDATES.

- a { The Latin Language and Literature.
- { The Greek Language and Literature.
- b { A Modern Foreign Language.
- c { Mathematics.

2. c SPECIAL GROUPS IN ONE OF WHICH THE CANDIDATES MUST ANSWER.

GROUP B.

English Philology and Criticism.

Logic.

Metaphysics, or (in place of Metaphysics, at the election of the Candidate) Political Economy and Jurisprudence.

GROUP C.

Chemistry.
d Natural Philosophy.

GROUP D.

Zoology.
Botany.
Physical Geography.

a.—In the Latin and Greek Languages every Candidate will be allowed to select for his examination in each language some two works of the following Classical Authors:—

Virgil—First six Books *Æneid*.
Horace—Satires, Epistles, and Art of Poetry.
Sallust.
Terence—*Adelphi* and *Phormio*.
Cicero—Orations against Catiline.
Tacitus—*Agriensis* and *de Moribus Germanorum*.
Xenophon—*Anabasis*, Book 2, 3.
Homer—*Iliad*, four first Books.
Herodotus—Book I.
Æschylus—*Prometheus Vincens*.
Euripides—*Medea*.
Lucian—Walker's Selections.

* Candidates for Honors in the Celtic, Russian, or Arabic Languages, are requested to give their Names to the Secretary as soon as possible after the Degree Examination.

b.—In Modern Languages the Candidate will be allowed to select for his examination the French, the German, or the Italian language, and will be required to translate from some two Modern Authors, in the language selected, and to translate an exercise from English into the same language.

c.—In Mathematics the Candidate will be examined in—

The 1st, 2nd, 3rd, 4th, and 5th Books of Euclid, and in the Definitions of the 5th Book.
Arithmetic, including Vulgar and Decimal Fractions.

Algebra, including the usual rules, to the end of Quadratic Equations, with the Nature and Use of Logarithms.
Plane Trigonometry.

d.—In the Examination in Natural Philosophy the Candidate will be expected to be able to give such mathematical proofs in reference to any question proposed as may be supplied by the foregoing mathematical course.

e.—In the examinations upon the subjects of the groups selected by the Candidates, the object of the Examiner will be to ascertain the extent and accuracy of the general knowledge of each subject possessed by the Candidate.

The special Courses and regulations of the Honor branches are as follows:—

1. ANCIENT CLASSICAL LANGUAGES AND LITERATURE.

1st Honor: an Exhibition, value £15, and a Gold Medal.

2nd Honor: an Exhibition, value £10.

The Candidates for Classical Honors will be examined in the following course:

Horace—Odes, Satires, and Epistles.

Virgil—Æneid, Books 1 to 8.

Cicero—Tusculan Disputations.

De Oratore.

Antones Veritas.

Juvenal—Satires, 1, 3, 8, 13, 14.

Tacitus—Annals, Book 1.

Historia, Book 1.

Livy—Books 4 and 22.

Terence—Adulphi and Phormio.

Plato—Apologia and Crito.

Thucydides—Book 1.

Herodotus—Book 1.

Æschylus—Prometheus Vinculus.

Sophocles—Oedipus Coloneus.

Homer—Iliad, 20 to 24.

Odyssey, 12 to 18.

Euripides—Medea, Alceste, and Orestes.

Greek and Latin Composition in Prose and Verse.

2. ENGLISH LANGUAGE AND LITERATURE.

Honor: an Exhibition, value £10, and a Gold Medal.

The Candidates will be examined in the History, Philology, and Grammar of the English language, at various periods, and in the principles of Literary and Grammatical Criticism, as exemplified in application to various Authors in English Literature.

3. MODERN FOREIGN LANGUAGES.

1st Honor: an Exhibition, value £15, and a Gold Medal.

2nd Honor: an Exhibition, value £10.

Candidates will be examined in the History, Philology, and Grammar of the following Modern Languages, viz. —The French or German, or the French and German, or the French, German, and Italian, as the Candidate may think proper. He will be required also to translate from English into the language or languages selected by him for examination.

4. MATHEMATICS.

1st Honor: an Exhibition, value £15, and a Gold Medal.

2nd Honor: an Exhibition, value £10.

The Candidates will be examined in the following Course:

Euclid—Books 1, 2, 3, 4, 5, 6.

Algebra, including its Application to Questions of Probabilities and Annuities.

The Theory and Solution of the Higher Equations.

Plane Trigonometry, including Democritus's Theorem and its Applications, and the Construction and use of Trigonometrical Tables.

Conic Sections.

Differential and Integral Calculus.

Differential Equations.

Co-ordinate Geometry, of Two and of Three Dimensions.

The First three Sections of the First Book of the Principles.

Spherical Trigonometry and its Application to Astronomy.

Theory of Logarithms.—Construction and Use of Logarithmic Tables.

5.—NATURAL PHILOSOPHY.

Honor: an Exhibition, value £15, and a Gold Medal.

Subjects of Examination—

Mechanics;
Optics, Geometrical and Physical;
Astronomy, Plane and Physical;

mathematically treated; and for another Honor, an Exhibition, £10 and a Gold Medal:—
subject of Examination—

Experimental Physics.
Heat.
Electricity.

6.—CHEMISTRY AND CHEMICAL PHYSICS.

Honor: an Exhibition, value £15, and a Gold Medal.

The subjects of Examination will be—

Chemical Philosophy.
Voltaic Electricity.
Crystallography.
Inorganic and Organic Chemistry.

7.—NATURAL SCIENCES.

Honor: an Exhibition, value £15, and a Gold Medal.

The subjects of Examination will be—

The Principles of Animal Structure and Classification.
The Principles of Vegetable Structure and Classification.
The Elements of Geology and Physical Geography.
The Laws of Geographical Distribution of Plants and Animals.

8.—LOGIC AND METAPHYSICS.

Honor: an Exhibition, value £15, and a Gold Medal.

The Examination will be conducted in accordance with the Courses of Instruction in
Logic and Metaphysics given in the Queen's Colleges.

9.—JURISPRUDENCE AND POLITICAL ECONOMY.

Honor: an Exhibition, value £15, and a Gold Medal.

The Examination will be conducted in accordance with the Courses of Instruction in
Jurisprudence and in Political Economy given in the Queen's Colleges.

10.—CELTIC LANGUAGES.

Honor: an Exhibition, value £10, and a Gold Medal.

The Examination will include the Critical History and Philology of the Hiberno-Celtic
language, with translations of passages from Authors of different periods, and re-transla-
tions from English.

11.—SANSKRIT.

Honor: an Exhibition, value £10, and a Gold Medal.

12.—ARABIC.

Honor: an Exhibition, value £10, and a Gold Medal.

REGULATIONS for the EXAMINATION of CANDIDATES for the DEGREE of A.M.

A Candidate may proceed to obtain his Master's Degree by examination in any one of
the four following Courses of Study, viz. :—

Classics, which shall be considered as including—

The Greek and Latin Classic Authors; Prose Composition in Greek, Latin, and English; a
modern Foreign Language.

2.—English Philology and Criticism.

Logic.

Metaphysics, or (in place of Metaphysics, at the Election of the Candidate) Political Economy
and Jurisprudence.

3.—*Mathematical and Physical Science*, which shall be considered as including the following subjects:—

Algebra, including the theory of Equations.
 Analytical Geometry.
 Trigonometry, Plane and Spherical.
 The Differential and Integral Calculus.
 Differential Equations.
 Theory of Probabilities.
 Statics and Dynamics.
 Hydrostatics.
 Hydraulics and Pneumatics.
 Heat.
 Electricity and Magnetism.
 Optics.
 Plane Astronomy.
 Physical Astronomy.

4.—*Experimental and Natural Sciences*, which shall be considered as including the following subjects:—

Experimental Physics.
 Laws of Chemical constitution and combination.
 General properties and preparation of Organic and Inorganic bodies.
 Structure, Functions, and Classification of Animals.
 Structure, Functions, and Classification of Vegetables.
 Zoological and Botanical Geography.
 Elements of Geology and Palæontology.
 Elements of Physical Geography.
 Elements of Crystallography and Mineralogy.

An Exhibition of £15, with a Gold Medal, will be conferred by the Senate upon any Candidate who shall obtain the first place in any one of the above four Courses of Study, if he be recommended as possessed of sufficient absolute merit.

REGULATIONS for the EXAMINATION of CANDIDATES for the DIPLOMA of CIVIL ENGINEER or of AGRICULTURIST.

1.—ENGINEERING DIPLOMA.

1. The Mathematical Examination of Engineering Candidates will include—

Arithmetic, including Vulgar and Decimal Fractions.
 Algebra, to the end of Quadratic Equations.
 Euclid, 1st, 2nd, 3rd, 4th, 5th, and 6th Books.
 Mensuration.
 Plane Trigonometry.
 Elements of Spherical Trigonometry.
 Construction and use of Logarithmic and Trigonometrical Tables.
 Conic Sections.
 Descriptive Geometry.

2. The Examination in Natural Philosophy, Chemistry, Mineralogy, and Geology, will be conducted with special reference to Engineering objects. In Natural Philosophy the Candidate will be required to supply in his answers all such mathematical proofs as may be supplied by the Mathematical Course above specified.

Every Engineering Candidate will be required to produce one of his own drawings of each of the following kind, viz.:—Bridges and Roads, accompanied by Plans and Sections; also Topographical Maps, with the Field-books and observations from which the whole were constructed. Candidates are recommended to produce Architectural drawings and drawings of Machinery. These drawings must be certified by the Teacher of Drawing in the College as having been bona fide executed by the Candidate.

Candidates will be furnished with data for a project of Constructive Engineering or Architecture, and will be required to furnish detailed propositions for carrying same into effect, with estimates and specifications.

Every Engineering Candidate must provide a certificate of having been engaged in obtaining a practical knowledge of Engineering under the direction of a Practising Engineer, for the term required by the Ordinance under which he proceeds for his Diploma.

2.—AGRICULTURAL DIPLOMA.

The Examination will include—

Arithmetic, with Vulgar and Decimal Fractions.
 Mensuration, practically treated.
 Principles of Natural Philosophy (without Mathematical proof).

And all the other subjects of the Course for Agricultural Diploma specified in the Ordinance, considered specially in their applications to Agriculture and Land Improvement.

The Candidate is recommended to produce any Surveys or Maps, with the Field-books from which they were constructed, which he may have prepared during his term of instruction in Surveying.

The Candidate will be furnished with data for a project of Farm Improvement, and required to furnish a detailed proposition for carrying the same into effect, with estimates and specifications.

The Candidate will be required to exhibit and explain a plan previously arranged by him for keeping Farm Accounts.

HONOR EXAMINATION IN THE DEPARTMENT OF ENGINEERING AND AGRICULTURE.

Engineering—Honor: an Exhibition, value £10, and a Gold Medal.

The Examination in Mathematics will include the following additional Course:

The Higher Algebra,

Differential and Integral Calculus, Differential Equations.

Co-ordinate Geometry of two and of three dimensions.

Spherical Trigonometry, and its applications to Astronomy and Geodesy.

The first three Sections of the First Book of the Principia.

In the examination in Natural Philosophy and in the theory and construction of Machines, the subjects will be mathematically treated.

Agriculture—Honor: an Exhibition, value £10, and a Gold Medal.

FACULTY OF LAW.

FOR THE DEGREE OF LL.D.

Candidates will be examined in the Laws of the Admiralty and Ecclesiastical Courts of England and Ireland, in addition to the subjects of Examination for the Degree of LL.B.

FOR THE DEGREE OF LL.B.

Candidates will be examined in the Law of Property, and Principles of Conveyancing, Jurisprudence, Equity, Common and Criminal Law, Civil Law, Pleading, Practice, and Evidence, Constitutional, Colonial, and International Law.

LL.B. HONOR EXAMINATION.

Honor: an Exhibition, value £10, and a Gold Medal.

FOR DIPLOMA IN ELEMENTARY LAW.

Law of Property, and Principles of Conveyancing, Jurisprudence, Equity, Common and Criminal Law, Civil Law.

HONOR EXAMINATION IN ELEMENTARY LAW.

Honor: an Exhibition, value £10, and a Gold Medal.

FACULTY OF MEDICINE.

REGULATIONS FOR THE EXAMINATION OF CANDIDATES FOR DEGREES AND HONORS.

Candidates will be required to answer in all the subjects of the Course prescribed for the degree of M.D., by the Ordinance of 30th June, 1850; or for the first or second Examination under the Ordinance of the 15th of March, 1852. Those latter will be concurrent with the Examinations under the original Ordinance, and will be conducted in the same way.

HONOR EXAMINATION IN THE FACULTY OF MEDICINE.

1st Honor: an Exhibition, value £20, and a Gold Medal,	}	For Candidates electing to proceed under the Ordinance of June, 1850.
2nd Honor: an Exhibition, value £20.		
Honor: an Exhibition, value £10, and a Gold Medal,	}	For Candidates in the second examination under the Ordinance of 15th March, 1852.
Honor: an Exhibition, value £10, -		
	}	For Candidates in the first examination under the said Ordinance.

By Order,

ROBERT BALL, LL.D., Secretary.

The Queen's University, 1st January, 1856.

CARLISLE.

I, GEORGE WILLIAM FREDERICK, EARL OF CARLISLE, Lord Lieutenant-General and General Governor of Ireland, do hereby approve of the foregoing Ordinances.

By His Excellency's Command,

THOS. A. LARCOM.

ORDER of the DEGREE and DEGREE EXAMINATION in the following Subjects in the Queen's University in January, 1880.

		ARTS, A.B. DEGREE.	AGRICULTURE.	MINERAL.	ENGINEERING.
THEORY (Two Semesters).	1st Year.	Latin.	Theory of Agriculture, Farm-Physics, and Accounts.	Mineral.	
	2nd Year.	Greek.	Practice of Agriculture, Farm-Improvements.	Geology.	Descriptive Geology.
NATURAL (Two Semesters).	1st Year.	Natural Geography.	History and Division of Farm-Products.	Natural Geography.	Engineering, and Architecture and Planning.
	2nd Year.	English Literature.	Domesticated Animals.	Natural History, Pharmacy and Medical Jurisprudence.	Geology and Mining.
SCIENCE (Two Semesters).	1st Year.	Mathematics.	Additional.	Botany.	Natural Science.
	2nd Year.	Logic, Metaphysics.		Physiology and Comparative Anatomy.	Natural Science.
PHILOSOPHY (Two Semesters).	1st Year.	Philosophy.	Classics.	Classics.	History.
	2nd Year.	Natural Philosophy.	Elements of Physics.	Natural Philosophy.	History, Philosophy, Political Economy.
SCIENCE (Two Semesters).	1st Year.	History and Theory.	Practical Biology and Botany.	Botany (History, Theory, and Practice).	
	2nd Year.	Physical Geography.	Mineralogy and Botany, Physical Geography.	Mineralogy and Division of Farm-Products and Cattle.	Mineralogy, Botany, and Physical Geography.
NATURAL (Two Semesters).	1st Year.	Geography and Political Economy.			
	2nd Year.	The two last two Semesters Examination may take in place a candidate in above.			
SCIENCE (Two Semesters).	1st Year.	Candidates to test in order of their Report, and to be examined in Examination in Theory.			
	2nd Year.	Candidates to examine in test result of Students' Report.			

		U.S. CIVILIAN		U.S. MILITARY AND NAVAL		MILITARY			REMARKS		
Military Rate Schedule	1st class	I	Civilian	I	Civilian	I	Civilian	I	Civilian	I	Civilian
	2nd class										
Naval Rate Schedule	1st class	II	Civilian	II	Civilian	II	Civilian	II	Civilian	II	Civilian
	2nd class										
Air Force Rate Schedule	1st class	III	Civilian	III	Civilian	III	Civilian	III	Civilian	III	Civilian
	2nd class										
Space Rate Schedule	1st class	IV	Civilian	IV	Civilian	IV	Civilian	IV	Civilian	IV	Civilian
	2nd class										
Other Rate Schedule	1st class	V	Civilian	V	Civilian	V	Civilian	V	Civilian	V	Civilian
	2nd class										
REMARKS: This column is to be used for any other remarks not covered by the above columns.											

IMPACT OF TECHNOLOGY ON THE

V.—RETURNS of STUDENTS attending the following MEDICAL SCHOOLS and HOSPITALS have been received during the year ended June, 1856.

MEDICAL SCHOOLS OF—	HOSPITALS.	LYING-IN HOSPITALS.
Trinity College.	Jervis street.	Rotundo.
Queen's College, Belfast.	City of Dublin.	Coombe.
Queen's College, Cork.	House of Industry.	Cork.
Queen's College, Galway.	S. and N. Infirmary, Cork.	Belfast.
Royal College of Surgeons.	Meath.	
Carmichael School.	Belfast.	
Original, Peter-street.	Mercer's.	
Dublin, Peter-street.	Galway Infirmary and Fever	
Jervis-street.	Hospital.	
	Steevens'.	
	Westminster.	

Students who purport to present themselves for examination for Medical Degrees in the Queen's University, should ascertain that their names are returned for any Medical Lectures they may attend, lest in consequence of such returns not having been supplied, their qualifications should be deemed insufficient when they so present themselves; and lecturers who are willing to make the required returns, and who have not received the necessary forms through the Registrars of the respective institutions, should cause application to be made for them.

VI.—AN ESTIMATE of the Sum that will probably be required to defray the Expenses of the QUEEN'S UNIVERSITY in IRELAND, for the year ending 31st March, 1857.

Two Thousand Four Hundred and Fifteen Pounds.

SALARIES OF EXAMINERS.	£	s.	d.
1. In Greek, ...	100	0	0
2. In Latin, ...	100	0	0
3. In Modern Languages, ...	50	0	0
4. In Celtic Languages, ...	20	0	0
5. In Mathematics, ...	100	0	0
6. In Logic and Metaphysics, ...	50	0	0
7. In Chemistry, ...	100	0	0
8. In Zoology and Botany, ...	75	0	0
9. In Natural Philosophy, ...	100	0	0
10. In English Literature, ...	50	0	0
11. In Mineralogy, Geology, and Physical Geography, ...	50	0	0
12. In Jurisprudence and Political Economy, ...	40	0	0
13. In Theory and Practice of Medicine, ...	100	0	0
14. In Theory and Practice of Surgery, ...	100	0	0
15. In Materia Medica, Pharmacy, and Medical Jurisprudence, ...	100	0	0
16. In Anatomy, Physiology, and Comparative Anatomy, ...	100	0	0
17. In Midwifery, and Diseases of Women and Children, ...	75	0	0
18. In Engineering and Surveying, ...	50	0	0
19. In Agriculture and Farm Management, ...	50	0	0
20. In Law, ...	40	0	0
21. In Sanscrit, ...	30	0	0
22. In Arabic, ...	30	0	0

1,510 0 0

OFFICE CHARGES.

Secretary's Salary, ...	350	0	0
Incidentals, Office Expenses, Postage, Messengers, Advertisements, &c., ...	180	0	0
Exhibitions, Prizes, Medals, ...	475	0	0

2,515 0 0

Probable amount of Fees (being the sum received, 1855), ... 100 0 0

Total Sum required, ... £2,415 0 0

VII.—CASH ACCOUNT of the QUEEN'S UNIVERSITY, for the year ending 20th June, 1856.

Dr.	£	s.	d.	Cr.	£	s.	d.
To Balance of Account, June, 1855, ...	80	5	5	By Salaries of Examiners and Secretary, ...	1,780	0	0
„ Parliamentary Grant, 1855, ...	2,366	0	0	„ Incidentals Expenses, ...	144	3	2
„ Fees on Degrees and Diplomas, ...	100	0	0	„ Medals and Exhibitions, ...	327	17	0
				„ Balance in Bank, ...	294	5	3
Total Charge, ...	£2,546	5	5	Total Discharge, ...	£2,546	5	5

APPENDIX VIII.

EXAMINERS, elected 16th July, 1856.

- Greek*.—William Nesbitt, Professor, Q.C., Galway.
Latin.—Bunnell Lewis, A.M., Professor, Q.C., Cork.
English Literature.—G. L. Craik, A.M., Professor, Q.C., Belfast.
Logic and Metaphysics.—T. W. Moffatt, LL.D., Professor, Q.C., Galway.
Mathematics.—George Boole, LL.D., Professor, Q.C., Cork.
Natural Philosophy.—George Johnstone Stoney, A.M., Professor, Q.C., Galway.
Chemistry.—John Blyth, M.D., Professor, Q.C., Cork.
Anatomy and Physiology.—Joseph H. Corbett, M.D., Q.U., LL.D., Professor, Q.C., Cork.
Zoology and Botany.—Alex. G. Melville, M.D., M.R.S.L., Professor, Q.C., Galway.
Modern Languages.—R. De Vericour, D. es L., Professor, Q.C., Cork.
Mineralogy, Geology, and Physical Geography.—Joseph Beete Jukes, A.M., F.R.S., Director Geological Survey.
Jurisprudence and Political Economy.—T. E. Cliffe Leslie, Professor, Q.C., Belfast.
Law.—William B. Drury, Esq., Barrister-at-Law.
Civil Engineering and Surveying.—Alexander Jack, Esq., Professor, Q.C., Cork.
Agriculture.—John F. Hodges, M.D., Professor, Q.C., Belfast.
Celtic Languages.—John O'Donovan, LL.D., M.R.S.L., Professor, Q.C., Belfast.
Medicine.—Samuel Gordon, M.D., &c.
Surgery.—Christopher Fleming, M.D., M.R.C.S.I., M.R.I.A., &c.
Materia Medica, Pharmacy, and Medical Jurisprudence.—William Barker, M.D., &c.
Midwifery and Diseases of Women and Children.—Richard Doherty, M.D., Professor, Q.C., Galway.

APPENDIX IX.

MEETINGS of the SENATE for the period of this Report in the Office of the University, Dublin Castle.

13th September, 1855.

Present: The Right Honourable Lord Chancellor Brady, *Vice-Chancellor*.

The President of the Queen's College, Belfast.

The President of the Queen's College, Cork.

The President of the Queen's College, Galway.

Lieut.-Colonel Larcom, LL.D.

James Gibson, A.M.

Robert Ball, LL.D., *Secretary*.

5th October, 1855.

Present: The Right Honourable Lord Chancellor Brady, *Vice-Chancellor*.

His Grace the Archbishop of Dublin.

The President of the Queen's College, Belfast.

The President of the Queen's College, Cork.

The President of the Queen's College, Galway.

Lieut.-Colonel Larcom, LL.D.

James Gibson, A.M.

Robert Ball, LL.D., *Secretary*.11th October, 1855—*Public Meeting in St. Patrick's Hall*.*Present*: The Right Honourable Lord Chancellor Brady, *Vice-Chancellor*.

His Grace the Archbishop of Dublin.

Sir Philip Crampton, Bart.

The President of the Queen's College, Belfast.

The President of the Queen's College, Cork.

The President of the Queen's College, Galway.

Lieut.-Colonel Larcom, LL.D.

James Gibson, A.M.

Robert Ball, LL.D., *Secretary*.

27th December, 1855.

Present: The Right Honourable Lord Chancellor Brady, *Vice-Chancellor*.

The President of the Queen's College, Belfast.

The President of the Queen's College, Cork.

The President of the Queen's College, Galway.

Lieut.-Colonel Larcom, LL.D.

Robert Andrews, LL.D.

Robert Ball, LL.D., *Secretary*.*Stated Meeting*—7th January, 1856.*Present*: The Right Honourable Lord Chancellor Brady, *Vice-Chancellor*.

Sir Philip Crampton, Bart.

The President of the Queen's College, Belfast.

The President of the Queen's College, Cork.

The President of the Queen's College, Galway.

Dominic J. Corrigan, M.D.

James Gibson, A.M.

Robert Ball, LL.D., *Secretary*.

1st May, 1856.

Present: The Right Honourable Lord Chancellor Brady, *Vice-Chancellor.*
 The Right Honourable Francis Blackburne.
 Sir Philip Crampton, Bart.
 The President of the Queen's College, Cork.
 Dominic J. Corrigan, M.D.
 Lieut.-Colonel Larcom, LL.D.
 James Gibson, A.M.
 Robert Andrews, LL.D.

Robert Ball, LL.D., *Secretary.**Stated Meeting—20th June, 1856.*

Present: The Right Honourable Lord Chancellor Brady, *Vice-Chancellor.*
 The Right Honourable Francis Blackburne.
 Sir Philip Crampton, Bart.
 The President of the Queen's College, Belfast.
 The President of the Queen's College, Cork.
 The President of the Queen's College, Galway.
 Dominic J. Corrigan, M.D.
 Richard Griffith, LL.D.

Robert Ball, LL.D., *Secretary.*

14th July, 1856.

Present: The Right Honourable Lord Chancellor Brady, *Vice-Chancellor.*
 The Right Honourable Francis Blackburne.
 The President of the Queen's College, Belfast.
 The President of the Queen's College, Cork.
 The President of the Queen's College, Galway.
 Richard Griffith, LL.D.
 Dominic J. Corrigan, M.D.
 Lieut.-Colonel Larcom, LL.D.
 James Gibson, A.M.
 Robert Andrews, LL.D.

Robert Ball, LL.D., *Secretary.*

The following Bye-law was amended at the stated meeting of the Senate of the Queen's University, on the 20th of June, 1856, by the insertion of the words in italics.

By Order,

ROBERT BALL.

Candidates for Degrees being presented to the Senate by the Presidents of their Colleges, and the Secretary having certified that their fees have been paid, and that they have duly passed the Examiners, they shall sign the Roll of the University, when the Chancellor (or Vice-Chancellor, or Chairman appointed as directed by the Charter,) shall admit them to Degrees in the following manner:—

In virtue of my authority as Chancellor, or Vice-Chancellor, or Chairman, I admit you to the Degree of

The Chancellor, or Vice-Chancellor, or Chairman, shall then proceed to present publicly any Exhibition or Medal which may have been awarded.

CARLISLE.

Dublin Castle, 25th June, 1856.